AMSCO Maintenance Manual

MODEL 110
UROLOGY TABLE
Series: 6301 — 6302

(5/94) P-751849-001

AMSCO | AMERICAN STERILIZER COMPANY • 2424 W. 23rd STREET • AMSCO 4078 • ERIE • PENNSYLVANIA 16514
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TABLE OF CONTENTS

ILLUSTRATIONS

SAFETY PRECAUTIONS

The following are personnel (WARNINGS) and equipment (CAUTIONS) *safety precautions* to be observed when installing, operating or servicing this Table. The page or pages on which they appear in the text of this manual is indicated by the number in the lower right-hand corner of the *precaution*.

WARNING: TO AVOID OIL SPILLS, A POTENTIAL PERSONNEL SAFETY HAZARD, PLACE LINE SO THAT OIL WILL STILL FLOW INTO SUMP. 4-2

WARNING: KEEP FINGERS AWAY FROM COLUMN OPENING TO AVOID INJURY TO FINGERS IN THE EVENT CARRIAGE SHOULD SLIP. 7-1

CAUTION: Do not drop parts into oil sump. If parts should fall into sump, make sure they are recovered. 2-2

CAUTION: Foot section must not be extended while lowering the top section. 2-1

CAUTION: If the unit is connected to an incorrect power source, the electrical components of the table will be seriously damaged. 2-2

CAUTION: Open and close the foot section and its component parts only while the table is in a level position. 3-2

CAUTION: Use Hydraulic Oil (764316-241) only. Damage to the hydraulic system can occur if another fluid is used. 4-1

CAUTION: Forcing the Emergency Pump pedal without first depressing either the RAISE, HEAD DN or HEAD UP pedals, exerts unnecessary strain on the pedal shaft and valves. This should be avoided. 4-1

CAUTION: Be certain that the adjusting screws on the Gabriel valve are not over-tightened in a clockwise direction, as damage to the Delrin seats might occur. 4-3

CAUTION: This nut must not be tightened excessively as it will break the needle valve. 4-4

CAUTION: The table should now be securely supported to prevent its sudden drop while bleeding operation is in progress. Refer to Fig. 7-1 for method of support. 4-5

SECTION 1

GENERAL INFORMATION

1-1. SCOPE

The product literature in this section contains factual data relating to the principal descriptive and identifying characteristics of particulars for AMSCO Model 110 Urology Tables. The literature is informational rather than instructional. It provides and conveys, textually and illustratively, a general concept of the equipment, its purpose, capabilities, limitations, and technical specifications.

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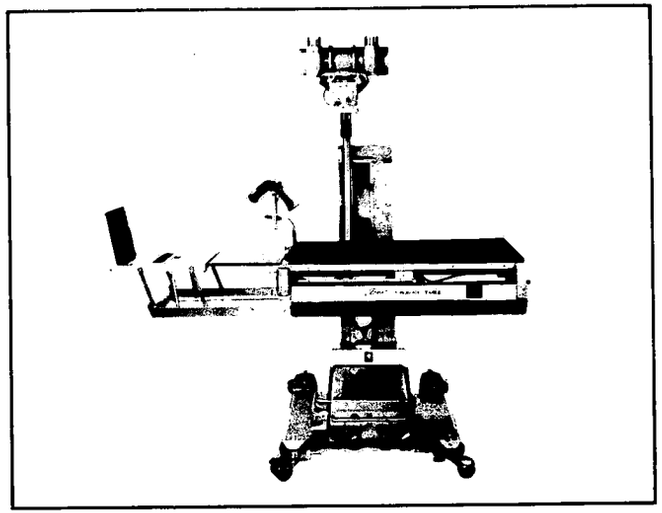
AMSCO

Urological Table

UROLOGICAL TABLE | **TECH DATA**



Typical only — some details may vary.

APPLICATION

This Table provides positioning of patient for urological procedures without sacrificing comfort of the patient or convenience for the Urologist.

DESIGN AND CONSTRUCTION

General. The Table is electro-hydraulically operated for easy positioning. Models fixed to the floor (with fixed x-ray grids) meet the requirements of Class 1, Group C equipment, are listed by Underwriters Laboratories, Incorporated, and are certified by Canadian Standards Association. Tables and accessories comply with the *Radiation Control for Health and Safety Act* of October 18, 1968.

Base. The electro-hydraulic components are mounted on a framed, cast-aluminum pallet and enclosed with an anodized-aluminum cover. The base is sealed to prevent entry of foreign matter. Foot pedals are provided at the foot end and side to actuate the electro-hydraulic system. An auxiliary foot-pedal-operated hydraulic pump is also provided. The base includes a NFPA-approved patient grounding receptacle.

Pedestal is on the left side of the Table for right hand loading model and right side for left hand loading model, as patient is viewed from head end. The tabletop is attached to the carrier within the pedestal by bearing-mounted cantilever. The pedestal contains the hydraulic lift cylinder that elevates or lowers the tabletop. The tabletop is positioned in Trendelenburg or reverse Trendelenburg by a separate hydraulic cylinder.

Tabletop consists of two sections: body and foot. The body section features movable carrier for a radiographic diaphragm, space beneath

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

Bucky Loading Side
- ☐ Patient Left
- ☐ Patient Right

Bucky Diaphragm
- ☐ Reciprocatic
- ☐ Immobilized

Table Support
- ☐ Fixed To Floor
- ☐ Fixed To Aluminum Base Plate
- ☐ Fixed To Aluminum Base Plate With Carriage

Optional Accessories
- ☐ Armboard
- ☐ Shoulder Braces (pair)

Grid
- ☐ 8:1 Ratio, 80 lines per inch (3.1 lines per mm)
- ☐ 12:1 Ratio, 80 lines per inch (3.1 lines per mm)

- ☐ Child Lithotomy

Item No. _____
Location(s) _____
_____
_____

tabletop for storing the foot section and transurethral drain tray, and side rails on both sides to receive accessories. The top of the body section is X-ray-penetrable material. A Velcro® (Velcro Corporation) tape strip on the body section mated to the tape on the tabletop pad permits instant application and removal of pad ... no other pad-fastening devices are required. The pad is a 1-inch (25-mm) thick, uncured, medium density, foam latex ... covered with double-coated, electrically conductive rubber sheeting.

The foot section can be withdrawn on roller bearings, and raised from its folded position to be level with the top of the body section. After actuating the release handle at the foot end, the foot section can also be extended in 2-inch (51-mm) increments from its fully retracted position. The top of the foot section and the footrest are cast aluminum. The footrest may be positioned vertical to or parallel with the top of the foot section.

The filler-board extension between the body and foot sections is concealed beneath the foot section when not in use.

X-ray Facilities. The Table features a roller-supported, crank-operated, radiographic diaphragm carrier beneath the tabletop. The carrier can be positioned along the tabletop and loaded from either the right or left side (as specified) viewing the patient from the head end. The vertical stand for an X-ray tube is on the diaphragm carrier opposite its loading side. The tube stand is equipped with a bracket that allows the use of a trunion ring for mounting an X-ray tube and a beam limiting device. (The trunion ring, X-ray tube and a beam limiting device are not furnished by AMSCO.) The Bucky diaphragm is either reciprocatic with conventional timing or immobilized, as specified. The reciprocatic Bucky also includes 60 lines per inch (2.4 lines per mm), 8:1 ratio grid and cassette tray for a 14x17 inch (365 x 432mm) cassette. *Optional* grids are available ... SEE SELECTIONS.

STANDARD ACCESSORIES

Transurethral Tray with stainless-steel tissue screen and drain hose connection at each end of tray is at perineal end of Table. The tray can be removed without tools and can be extended and locked in three positions. Lock release is adjacent to the tray near the end of the Table.

Kneerests feature contoured crutches with straps to hold patient's legs. The crutches are at each corner of the Table on the perineal end. The rests have built-in lateral tilt and permit leg abduction. Reverse locks are included to hold crutches in the abducted position.

TABLE SUPPORT

The Table is supported by being either bolted directly to a finished floor; attached to an aluminum plate that is not bolted or otherwise attached to the floor; or secured to an aluminum plate that includes a mobile carriage with positive floor locks, as specified.

OPTIONAL ACCESSORIES

General. A choice of two general accessories is available: armboard with 1-inch (25-mm) pad and a pair of shoulder braces with pads, angles and locks.

Legholders. A legholder accessory is available: child lithotomy.

MATERIAL SPECIFICATIONS

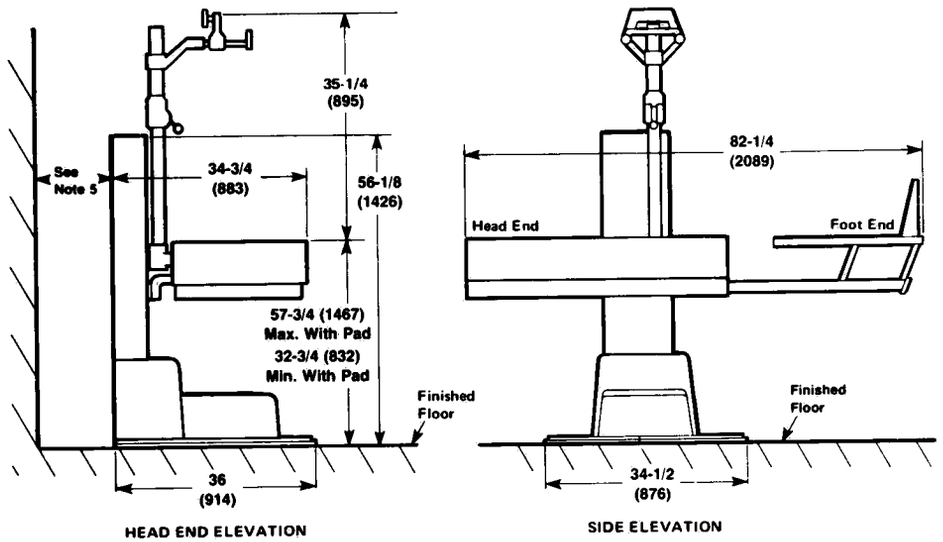
General. Materials not definitely specified herein are of the best quality routinely employed for the purpose in the industry. They are free from defects that might affect the safety, serviceability and appearance of the finished products.

Finish. Exposed stainless steel (conforming with ASTM Specification A 167), aluminum and chromium-plated surfaces are polished. Carbon-steel exterior surfaces are degreased, phosphatized and coated with corrosion-resistant primer followed by two spray coats of textured-enamel paint. The finish is then oven baked.

PERFORMANCE CAPABILITIES

When operated with a 300-pound (136 kg) load, the table shall be positioned as follows without perceptible binding or jerking, and without settling after the positions are obtained.

Table Component	Position Starting With Superstructure Horizontal	Range
Top and Superstructure	Raise — Lower	To any point within 31½ to 56½ inches (800 to 1435mm) above the floor.
	Trendelenburg (head down)	0 to 15 degrees
	Reverse Trendelenburg (head up)	0 to 75 degrees
Transuretheral Tray	Extend	Flush, 9 inches (229mm) or 18 inches (457mm)
Vertical Tube Stand and and Tray	Simultaneous Horizontal Travel	20 inches (508mm)
Foot Section	Extend	0 to 11⅝ inches (0 to 295mm) free travel, then 11⅝ to 35 inches (295 to 889mm) in 2 inch (51mm) increments.



DIMENSIONS ARE INCHES (MILLIMETERS) — DRAWING IS NOT TO SCALE

NOTES:

1. Approximate weight — 850 lbs (386 kg).
2. Male connector to ground patient is not furnished by AMSCO.
3. Electric cord not furnished by AMSCO.
4. Table with plate mounted base, left-hand-mounted tube stand and right-hand-mounted carriage is shown.
5. Location of Table in relation to wall depends on length of X-ray tube housing.

This print is for guidance when planning space and utility services. Actual installation prints may be obtained from any AMSCO office or representative.

SECTION 2

INSTALLATION INSTRUCTIONS

2-1. UNCRATING

AMSCO recommends that installation be made only under the supervision of an AMSCO technician.

1. Remove the top and sides of the crating. For a model without aluminum base plate, remove the four screws holding the wood skids to the bottom of the base.

2. Remove the wood braces and slide the table from its skids onto the floor.

2-2. INSTALLATION

Since the hydraulic oil was removed for shipment, it will be necessary to replace this oil upon arrival at the hospital.

The oil fill opening is located at the back of the column. Remove the aluminum back plate to expose this opening.

Using hose, funnel and can of oil provided (approximately 1½ quarts hydraulic oil — 764316-241) pour oil into the reservoir located at bottom of the column. Do not allow any foreign particles to enter the hydraulic system.

Move the table to the Urology Room.

NOTE: If the table will not clear doorways, the table top must be tipped to a vertical position.

To accomplish this, proceed as follows:

CAUTION: Do not drop parts into the oil sump. If parts should fall into the sump, make sure they are removed from the sump.

Remove four screws securing the cover cap (5, Fig. 8-5) and remove the cover cap. Elevate the table to its full height using the emergency pump pedal (see item 10 in paragraph 3-1). Remove the two screws securing the cam (Fig. 2-1) and remove the cam.

CAUTION: Foot section must not be extended while lowering the top section.

Press the HEAD DN pedal lever while manually working the emergency pump lever to secure an extreme Head Down position. Lower the table top to clear the door casing being careful not to strike the cover.

After the table has been placed in the desired location connect the electrical service to the table and return the table top to a level position. Replace the cam (Fig. 2-1). Check the operation of the table through various positions.

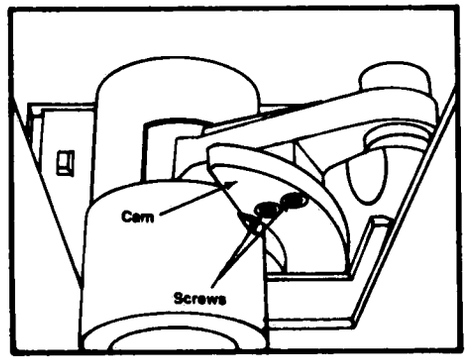


Figure 2-1. Location of Cam.

Table For Fixing To Floor

Bolt the table to the floor with four 5/8-inch diameter anchor bolts of sufficient length that at least 1-1/2 inches of the bolt projects above the floor and with a minimum of 1-1/4 inch thread length. Each bolt must be anchored to withstand 3000 lbs pull. See Fig. 2-2 for the hole dimensions.

NOTE: The floor must be level before installation of the table.

CAUTION: If the unit is connected to an incorrect power source, the electrical components of the table will be seriously damaged.

The electrical service is made through the floor into the explosion proof junction box (69, Fig. 8-2).

Plate Mounted Table

The plate mounted table is mounted on a 36x34-1/2x 3/4 inch aluminum base plate. This base is sufficiently wide to eliminate the need for bolting the table to the floor.

Replace the covers previously removed.

Table Mounted On Mobile Base

Place the table in desired location. Using a speed wrench, lower the four (5, Fig. 8-12) locking bolts an equal amount until the table is made immobile.

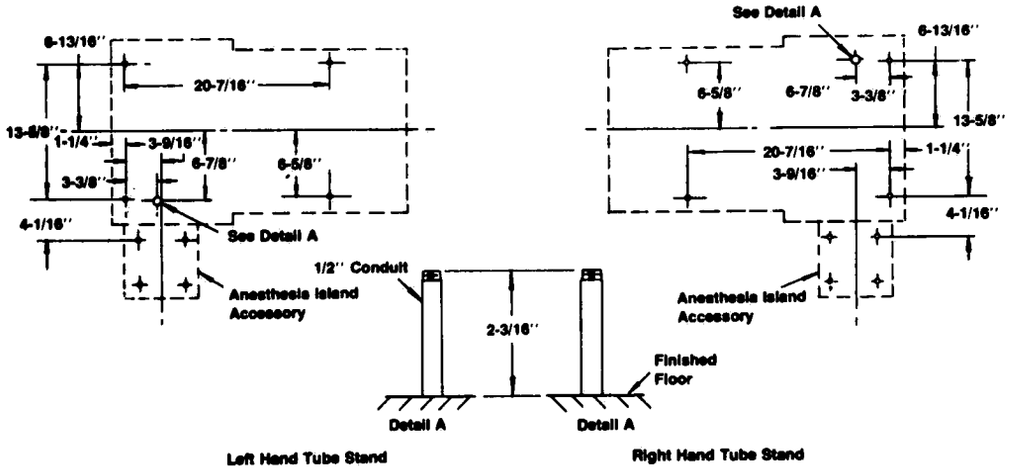


Figure 2-2. Dimensions and Electrical Connections.

SECTION 3

OPERATION

3-1. OPERATING INSTRUCTIONS

1. General. There are two sets of control pedals (see Fig. 3-1). One at the (foot) side of base for the operating surgeon, the second at the front end of the base, for the assistant.

2. Elevation. Depress RAISE pedal (1, Fig. 3-1) until the desired height is obtained. Depress LOWER pedal (2) to lower the table.

3. HEAD DN. Depressing the HEAD DN pedal (3) will move the table to a maximum of 15° HEAD DN position.

4. HEAD UP. Depressing the HEAD UP pedal (4) will move the table thru a 90° arc with head of the table moving from 15° below horizontal to 75° above horizontal. Any intermediate angle may be selected by removing pressure from the pedal at the appropriate time.

5. X-Ray and Bucky Assembly. To move the x-ray and bucky assembly, turn the crank located at the head end of the table. Limited Fluoroscopic procedures may be used by moving the bucky to either end of the table, thus making the opposite end available for fluoroscopy.

CAUTION: Open and close the foot section and its component parts only while the table is in a level position.

6. Foot Section. The foot section may be extended by pulling the rod (17) at the perineal end of the table. Adjustments in two inch increments are provided.

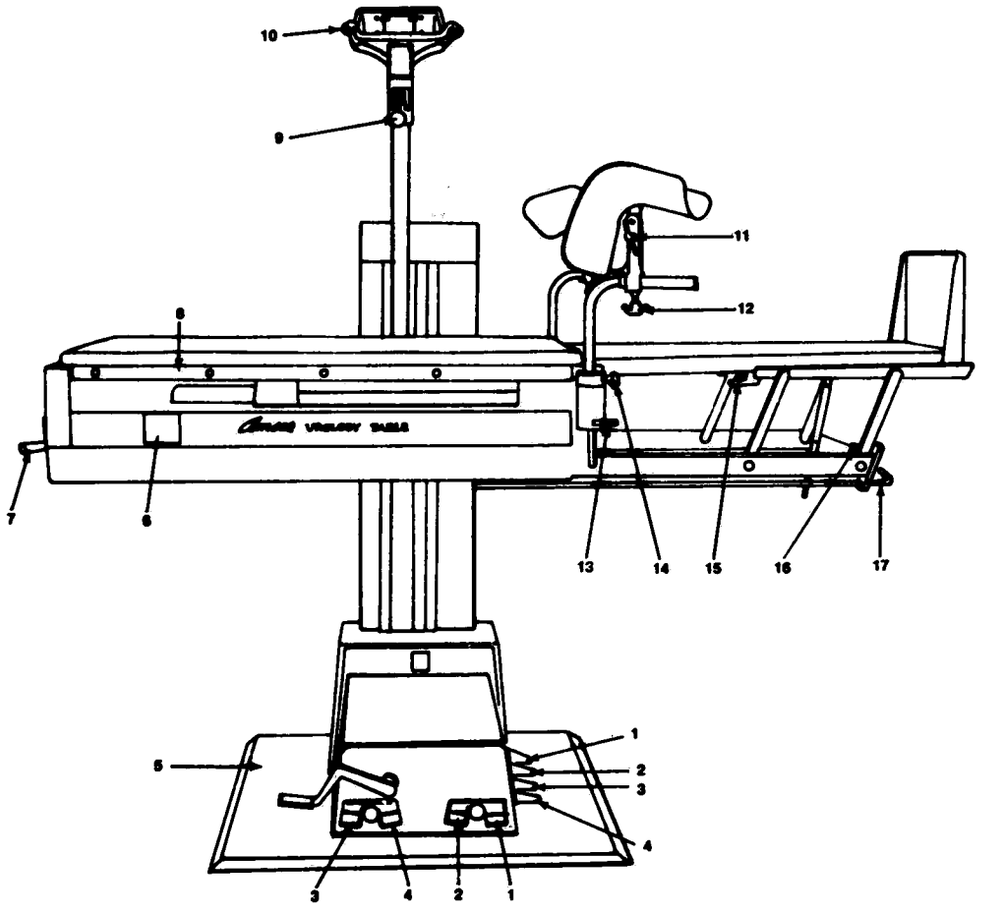
To raise the leg section, carefully lift the section up and away from the table until the spring-loaded catch (16) locks it in place. Lift the foot rest. The thigh rest may be pulled out of the leg rest. It is held in position by the cam lock (15). This cam lock lever, located on the patient's right side, releases the thigh rest for re-entry into the leg section channels. To close the leg section, fold the foot rest. Release the spring-loaded catch (16) and carefully push the leg section toward the table until it rests on the support rails. Pull the rod (17) and push the folded leg section into the table.

7. Knee Crutches. The height adjustment is controlled by the small round knob (14) requiring only finger tightness since the rod is tapered. The screw (12) locks the knee crutch in position. The patients legs may be abducted by lateral pressure on the knee crutches. The patient cannot return the knee crutch to a closed position without release of the lock lever (13). The knee crutch may be moved along the horizontal portion of the support rod by releasing the lock screw (12). Rotation of the knee crutch is controlled by the thumb screw (11).

8. I.V. Armboard. Attach the armboard to the table side rail (8). The horizontal angle between the armboard and side of table can be adjusted as desired.

9. Shoulder Supports. Attach the shoulder supports to the table side rail (8). Slide the shoulder supports to desired position and lock with the thumb screw.

10. Emergency Pump. To operate the table in the event of a power failure, remove the plug button from the front of the base cover and insert the Emergency Pump pedal. (5, Fig. 3-1). **NOTE:** Depress the desired control pedal before pumping the Emergency Pump pedal to prevent unnecessary strain on the pump pedal valves. Pump this pedal while depressing the RAISE, HEAD DN OR HEAD UP pedal.



1. RAISE Pedal
2. LOWER Pedal
3. HEAD DN Pedal
4. HEAD UP Pedal
5. Emergency Pump Pedal
6. Trendelenburg Indicator
7. X-ray and Bucky Assembly Crank
8. Table Side Rail
9. X-ray Tube Rotation Lock
10. X-ray Tube Mounting Bracket
11. Knee Crutch Thumb Screw
12. Knee Crutch Lock Screw
13. Knee Crutch Rotation Release
14. Vertical Adjustment Screw
15. Thigh Rest Cam Lock
16. Foot Section Spring Latch
17. Foot Section Lever

Figure 3-1. Controls.

11. Transurethral Tray. The sterilizable drain tray and tissue retention screen are contained within the body section framework of the table.

Lift the finger latch (Fig. 3-2) to unlock the tray. Depress the finger latch to lock the tray in either out or in positions.

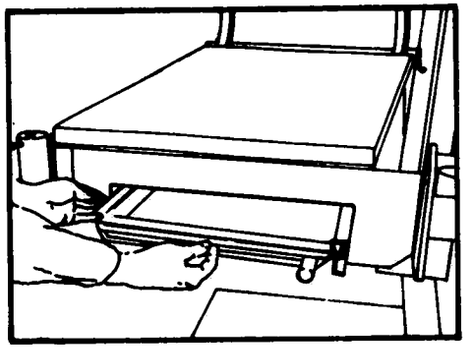


Figure 3-2. Unlocking Tray.

To completely remove the tray for cleaning and/or sterilization, lift the finger latch, extend the tray fully and lift the tray from the tracks. (Fig. 3-3)

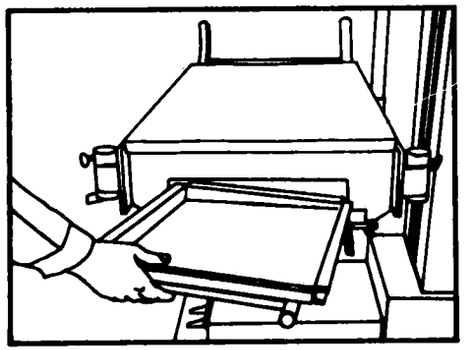


Figure 3-3. Removing Tray.

The position of the drain outlet may be changed by reversing the tray. **NOTE:** Plug unused drain outlet.

It will be noted in Fig. 3-4 that there are two sets of engaging holes on the U-shaped tray channels. If it is desired to have the tray extended further than normal, lift the tray and slide it out until the guide rail pins engage the second set of holes.

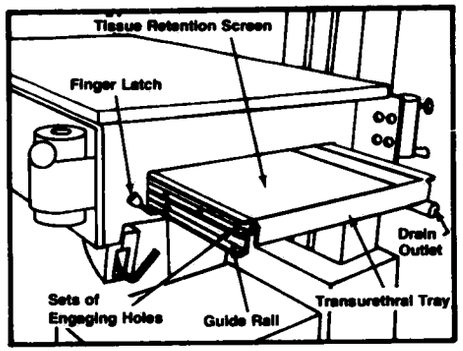


Figure 3-4. Extending Tray

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SECTION 4

MAINTENANCE

4-1. INSPECTION

1. General. Inspect for loose or missing parts. Replace and tighten any loose screws or nuts.

2. Oil Level. To check the oil level in the sump, raise the table to its maximum height. The oil fill hole is located at the back of the column. Remove the aluminum back plate to expose this opening.

NOTE: On older tables, the oil fill opening is located on the front of the column. To open, proceed as follows: Remove the two socket head screws (6, Fig. 8-5) from the lower half of the Front Plate (31, Fig. 8-5). Ease the spring gently to its lowest position, thereby gaining access to the oil reservoir.

CAUTION: Use Hydraulic Oil (764316-241) only. Damage to the hydraulic system can occur if another fluid is used.

NOTE: Do **not** mix oils. Check tag attached to base of table for type of oil used and then replace with same type of oil. If the same type of oil is not available, refer to Section 5-6, **HYDRAULIC OIL REPLACEMENT.**

Insert a clean narrow ruler until it touches bottom. The normal fluid level, with the table raised to its maximum position, is 1-1/2 inches. If the level is less than 1-1/2 inches, add sufficient hydraulic oil (764316-241) to restore normal level. Replace the access cover.

3. Table Elevation. Depress the RAISE pedal. The table should rise smoothly and quitely to the maximum height of approximately 57 inches. Depress the LOWER foot pedal. The table should lower smoothly and quietly to a minimum height of approximately 32 inches. If raising or lowering action is faulty, refer to paragraph under "Adjustments."

4. HEAD DOWN. Depress the HEAD DN pedal. The table should move smoothly and quietly to a 15° HEAD DOWN position. Check the level indicator reading (22, Fig. 8-9). Depress the HEAD UP pedal. The table should move smoothly and quietly through a 90° arc from 15° below to 75° above horizontal. The table should stop smoothly and positively, at any point in the 90° arc when the pedal is released. The table should begin to rise vertically as it passes through the 25° HEAD UP position. If necessary refer to item 1 of paragraph 4-2.

CAUTION: Forcing the Emergency Pump pedal without first depressing either the RAISE, HEAD DN or HEAD UP pedals, exerts unnecessary strain on the pedal shaft and valves. This should be avoided.

5. Emergency Pump. Disconnect the power to the table. Remove the plug button and insert the "Emergency Pump" pedal. Depress the RAISE, HEAD DN or HEAD UP pedal, then pump the Emergency Pump pedal.

6. Foot Section. Operate the foot section as described in item 6 of paragraph 3-1.

7. Hydraulic Leakage. After the table has been installed, check for signs of oil leakage from the base.

8. X-Ray Tube and Bucky Assembly. Check for ease of travel of the x-ray tube and Bucky assembly. Check the rotation of the x-ray tube carrier. It must lock properly in the two positions provided.

When properly adjusted, the x-ray carriage is parallel with tabletop length and 2 degrees above parallel with tabletop width (without x-ray head installed). Refer to item 8 of paragraph 4-2.

9. Transurethral Pan. Check the pan for ease of movement and locking.

10. Tabletop Drifting. Drifting of the tabletop can be caused by malfunctioning of the table's hydraulic system. To determine and correct this condition, follow each step in the order shown in this procedure. If the table fails any part of the test, *corrective action must be taken as described.*

Before Operating the Table:

a. Determine if the top section has *excessive* movement or play.

NOTE: Any movement beyond tolerable limits is considered *excessive*. In most cases, a defective valve will permit *excessive* movement and, consequently, drifting of the table top.

b. Check the adjustment of the Trendelenburg 4-way valve as outlined in item 2 of paragraph 4-2.

Malfunctioning of the Hydraulic System:

With a load of approximately 40 pounds on extended foot section, position tabletop horizontally at minimum height and proceed as follows:

a. Depress HEAD UP pedal until tabletop shifts from 25° "head-up" travel to elevation and rises approximately 6 inches. Release HEAD UP pedal; then lift the foot section by hand and check for excessive movement of the tabletop.

b. If there is excessive movement, either static pressure is preventing the pilot check ball from seating or the 4-way sump valve is defective.

NOTE: A line, entrapped by static pressure, will bleed off and tabletop drifting will stop after "head-up" travel of approximately 10°.

If the 4-way sump valve is defective, the tabletop will continue to drift after 25° "head-up" travel until it reaches maximum height.

(1) Remove the four pedals, base and lower column covers; then replace the HEAD DN/HEAD UP pedal at the end of the base.

(2) Position tabletop at 30° (depress HEAD UP pedal) and disconnect the tube from the manifold.

(3) Depress HEAD UP pedal. There should be no oil flow through the tube.

(4) If there is oil flow, the 4-way sump valve is either maladjusted or defective. Adjust valve by backing out the set screw in the actuator (nearest the motor) until oil flow stops. Reconnect the tube to the manifold.

(5) With HEAD UP pedal depressed, ensure that tabletop movement automatically shifts from 25° "head-up" travel to elevation.

NOTE: If the 4-way sump valve cannot be adjusted to allow above shifting of the tabletop, replace the valve with a pre-adjusted valve (P-52191-091). (Refer to item 55, Figure 8-1.)

c. With tabletop at maximum height, and weight applied to the head section, depress HEAD UP pedal. Release pedal at 10° intervals. The tabletop should come to a firm stop at each interval.

NOTE: Excessive tabletop motion indicates that the piston in the pilot check valve is sticking. Replace valve, using Conversion Kit A-750693-091.

d. With a load of approximately 40 pounds on extended foot section, position tabletop at maximum height and 15° "head-up" position.

(1) Leave the tabletop in this position for 3 hours without touching the controls.

(2) At the end of this period, lift the foot section by hand to check for excessive movement.

NOTE: Excessive tabletop motion indicates a leaking pilot-operated check valve. Replace valve, using Conversion Kit A-750693-091.

NOTE: If table top drifts in trendelenburg or reverse trendelenburg use this procedure to prove or disprove problem is in trendelenburg cylinder.

Make sure all Gabriel valves for raise, lower and trendelenburg functions are adjusted and functioning properly. Pull plastic return-to-sump line far enough out of sump to observe oil flow.

WARNING: TO AVOID OIL SPILLS, A POTENTIAL PERSONNEL SAFETY HAZARD, PLACE LINE SO THAT OIL WILL STILL FLOW INTO SUMP.

Operate table and observe oil flow returning to sump.

If there continues to be a heavy flow of oil returning to the sump after the table top reaches its limit of travel, the trendelenburg cylinder is bypassing internally and requires replacement. (See paragraph 7-4.)

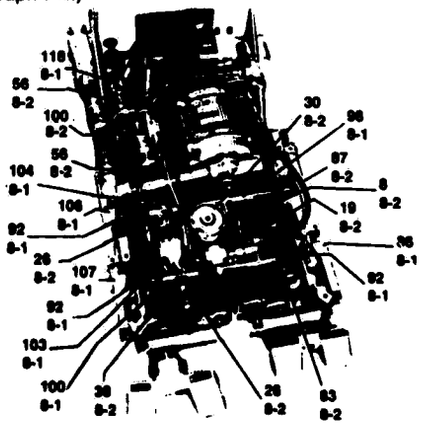


Figure 4-1. Base Details.

4-2. ADJUSTMENTS

Periodic adjustment of the pedals and table control mechanism may be required for proper operation. Outlined below are the recommended procedures for making these adjustments.

Refer to Figures 4-1A, 8-1 and 8-2 and the photo (Fig. 4-1).

Remove the pedals and covers from the table.

Replace the pedals in their proper locations.

Install a (0-1000 psig) pressure gauge (40102-091 or equivalent) on the side of the hydraulic filter. The oil sump must have 1-1/2 inches of oil (764316-241) with the table at maximum height.

1. To adjust Raise and Lower Controls. The rollers (92, Fig. 8-1) on the ends of the raise and lower rod assembly should just clear the cams on the linkage bars (86, Fig. 8-1) and (106, Fig. 8-1). These can be adjusted by rotating the adjusting rod (103, Fig. 8-1) in one-half turn increments and the sleeve (100, Fig. 8-1) in half-turn increments. The hole in the sleeve (100, Fig. 8-1) should centralize with the hole in the actuator (38, Fig. 8-2) and with the shaft (104, Fig. 8-1). Adjust the set screw in the rod assembly (98, Fig. 8-1) so that it actuates the lever (19, Fig. 8-2) and starts the motor (75, Fig. 8-2) before the actuator (38, Fig. 8-2) opens the valve (23, Fig. 8-2). The motor should be running before the valve allows the table to raise. The motor does not operate when the table is being lowered.

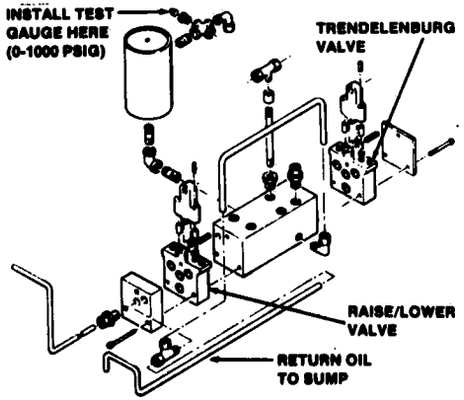


Figure 4-1A. Manifold Assembly.

Remove the raise/lower linkage that is controlling the raise/lower Gabriel valve. With the table top horizontal and elevated about half-way, adjust the "lower side" of the Gabriel valve with a 1/8" Allen wrench so the table just begins to lower. Now adjust the valve so the table stops lowering. Place the 1/8" Allen wrench on the "raise side" of the Gabriel valve. Turn on the pump motor by pushing the actuator bar over to the left — let it keep the pump motor running. Adjust the "raise side" so the table just begins to raise. Now adjust the raise valve so the table stops raising.

With pump motor on, but all valves unactuated, check return oil to sump line (see Figure 4-1A). There should be absolutely no leakage or dripping seen at this tube. If leakage occurs, adjust the raise/lower valve. If leakage cannot be stopped, the raise/lower valve may have to be replaced. Once all leakage has stopped in the return oil to sump line, check the operating pressure of the hydraulic system. The previously installed gauge should read 700-750 psig.

Reinstall the raise/lower linkage, making sure it does not put pressure on the Gabriel valve. Operate the raise/lower pedal and make sure the table raises and lowers OK. Again, actuate only the pump motor — the pressure gauge should read 700 to 750 psig.

2. To adjust the HEAD DN and HEAD UP Controls. The rollers (92, Fig. 8-1) on the ends of the Trendelenburg rod assembly should just clear the cams on the rods (87, Fig. 8-1). When in its rest position, the hole in the sleeve (100, Fig. 8-1) should centralize with the hole in the actuator (38, Fig. 8-2) and with the shaft (104, Fig. 8-1). Adjust the set screw which actuates the levers (19 and 8, Fig. 8-2). The motor should be running before the actuator (38, Fig. 8-2) opens the valve (23, Fig. 8-2) in either the HEAD DN or HEAD UP positioning of the table.

3. Trendelenburg Valve Adjustment. The Trendelenburg valve can now be adjusted for proper action.

NOTE: Do **not** remove the valve control linkage on this valve.

As a final check, remove the oil return to sump line from the manifold of the raise/lower valve (see Figure 4-1A). This line is "teed" in with the return to sump line from the Trendelenburg valve. Apply power to the motor (with all valves unactuated) and check again for any oil leakage in the return oil line. If leakage appears and cannot be adjusted out of the valve, a new Gabriel valve must be installed.

CAUTION: Be certain that the adjusting screws on the Gabriel valve are not over-tightened in a clockwise direction, as damage to the Delrin seats might occur.

4. Check all articulations to see that they are performing as desired. Note the effort required to operate the pedals. When operation is satisfactory, replace and secure the covers. Install and secure the pedals.

5. Recheck all articulations. If extra effort is required, the covers may be binding against the levers. Adjust the covers as necessary to eliminate interference.

CAUTION: Hex nut on control valve must not be tightened excessively as it will break the needle valve.

6. To Adjust Flow Control Valve. To check and adjust the flow control valves, (56, Fig. 8-2), place the table in a horizontal position, extend and raise the foot section and foot rest, then place a 150 pound weight against the foot rest. Depress the HEAD UP pedal until the table reaches the end of its arc at the 75° above horizontal position. The table should move through its arc smoothly and at a constant speed. Any roughness or jerking as the table approaches the 75° HEAD UP position indicates need for flow control valve (56, Fig. 8-2) adjustment for speed. The adjustment is made by loosening the hex nut on the control valve and adjusting the needle valve counterclockwise until smooth operation is achieved. The nut should be again tightened before the table is rechecked for smooth operation.

7. X-ray Carriage Adjustment Procedure.

a. Remove x-ray head from carriage.

b. Loosen (slightly) the four socket-head screws securing the tube assembly to the base assembly (keep screws snug).

c. Position the tube assembly so that the carriage assembly is parallel with the table-top length and 2° above parallel with the tabletop width (2° is allowance for flexing when x-ray head is installed).

d. Tighten the four socket-head screws evenly and check alignment. Repeat this step and step "c" if necessary.

8. X-ray Head Alignment (For Units Shipped After 11/16/75).

(Refer to Figure 8-10.) Align x-ray head by performing necessary vertical, rotational and lateral adjustments. After completing these adjustments, tighten the eight setscrews to 90 inch-pounds, minimum.

9. Pedal Actuation Force

If force needed to actuate the raise/lower and trendelenburg pedal has been found to be *excessive* (over 40 lbs), *corrective action must be taken as described.*

To reduce the force, the helical spring, part P-47711-091, must be eliminated. To do this, order the following parts, and make the indicated conversion.

Parts required for one table — four pedal assemblies:

P-150749-001 — Washer, Aluminum — 4 Required

R-5300-563 — RTV-108 — 1 Required

P-47695-091 — Washer, Teflon — 4 Required

P-9448-045 — Screw, Drive (#4 x 1/4) — 8 Required

P-150741-001 — Screw (3/8-16 x 2-3/4) — 4 Required

a. Refer to Figure 4-2 and remove pedal assembly as follows:

Remove plug button and screw and slip pedal assembly out of base. Take off spring and washer. Discard spring, washer and screw.

b. Refer to Figure 4-2. Place aluminum washer on pedal shaft and slide pedal assembly back into table base. Position washer against base cover such that washer attachment holes are vertical. Center the washer so that there is equal space between pedal shaft and inside of washer. Using attachment holes in washer as guides, punch-mark base cover for drilling. Remove pedal assembly and washer.

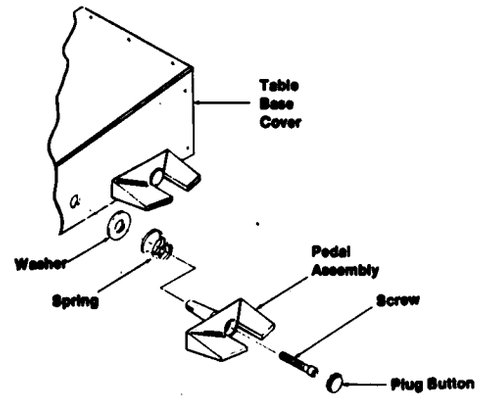
c. Drill holes in base cover using a #37 drill bit (0.104 dia).

d. Apply a bead of RTV-108 to the back (base cover) side of the aluminum washer. Attach the washer to the base cover using two drive screws.

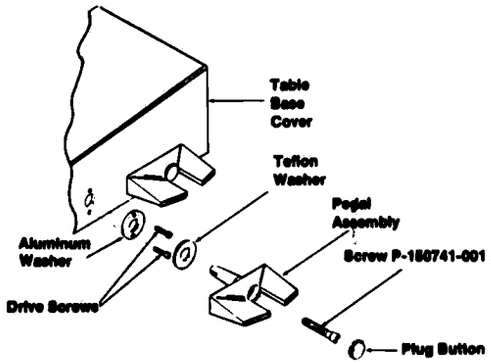
e. Place new teflon washer on pedal shaft. Install and adjust pedal assembly using screw, part P-150741-001. Adjust screw to allow free pedal movement toward the base cover during full pedal actuation.

f. Replace plug button.

g. Repeat procedure for remaining pedal assemblies.



Before



After

Figure 4-2. Correcting Pedal Actuation Force.

4-3. LUBRICATION

1. General. In order to ensure the continued satisfactory performance of any piece of precision machinery, proper lubrication is of utmost importance. For this reason AMSCO recommends that this table be lubricated every six months as follows.

a. Coat all shafts, pins and any metal sliding surfaces with Moly-Lubriplate (ordering specification R6400-825, 5 lb. can).

b. Lubricate all bearings and other moving parts with a good grade of medium-weight lubricating oil.

2. Foot Section. Lubricate all pivot points and other metal to metal moving surfaces with medium weight oil.

3. X-Ray and Bucky Diaphragm. Clean and lubricate control screw and tracks with Moly-Lubriplate.

4. Knee Crutches, I.V. Armboard and Shoulder Rests. Clean and apply a thin film of oil to all metal-to-metal sliding surfaces and screw threads.

5. Transurethral Drain Tray. Clean and lubricate pivot points and metal-to-metal sliding surfaces with a medium weight oil.

4-4. BLEEDING AIR FROM HYDRAULIC SYSTEM

1. Remove the pedals (1 thru 4, Fig. 3-1), base cover and column covers.

2. Replace the pedals at the end of the base.

3. Remove plug (99, Fig. 8-2) from top of filter (30, Fig. 8-2). Actuate motor switch for an instant or until oil appears in plug hole. Replace plug in hole.

4. Raise the table to its full height and let stand for a minimum of five minutes to allow the air bubbles to accumulate at the top of the oil column. Disconnect the electrical power and use the EMERGENCY Pump for bleeding.

5. With the table at its maximum height, change to a level position.

CAUTION: The table should now be securely supported to prevent its sudden drop while bleeding operation is in progress. Refer to Fig. 7-1 for method of support.

6. Step on the LOWER pedal (2) to relieve the pressure in the lift cylinder (Fig. 4-3) and remove the bleeder hole screw(C, Fig. 4-3)and the "O" ring located in the 3/4 inch raise piston.

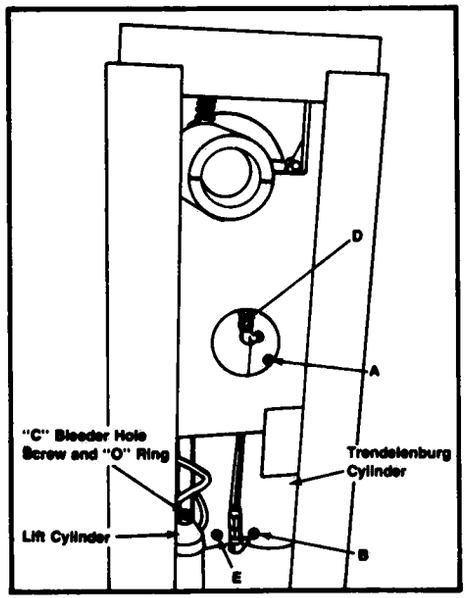


Figure 4-3. Location of Bleeder Outlets.

CAUTION: Waste cloths are necessary to prevent the oil from running down the hoses into the pallet assembly.

NOTE: This screw cannot be seen unless the table is in the maximum raised position.

CAUTION: Be sure that the "O" ring is in its proper place under the bleeder screw head.

7. Carefully step on the RAISE pedal and work the EMERGENCY Pump Lever several times. Repeat until a small amount of oil flows out of the bleeder hole. Keep a finger on the hole. Do not allow an excessive amount of oil to flow out of this hole. Replace the bleeder hole screw and the "O" ring.

8. Tighten the bleeder hole screw. Step on the RAISE pedal to remove the blocks and supports.

9. Move the table through a complete HEAD UP — HEAD DN cycle several times to drive all the air in the Trendelenburg system into the Trendelenburg cylinder (Fig. 4-3).

10. To bleed the Trendelenburg cylinder, put the table in a complete HEAD DN position and loosen the socket head screw (A, Fig. 4-3) near the top of the Trendelenburg cylinder.

NOTE: Older model tables do not have this screw, therefore, the fitting (D, Fig. 4-3) must be loosened near the top of the Trendelenburg cylinder.

Do not remove the screw or fitting. Let stand in this position for at least five minutes to rid the oil of the air bubbles.

11. Carefully step on the HEAD DN pedal and operate the manual pump until a small amount of oil is forced out through the loosened screw or fitting.

12. Carefully step on the HEAD UP pedal and operate the manual pump to remove any air that may have entered the screw or hose connection.

13. With the table in the HEAD UP position, loosen the bottom screw (B, Fig. 4-3) and bleed in the same way as with the top screw (A) loosened (Steps 10, 11 and 12). On older tables it will be necessary to loosen the lower fitting (E, Fig. 4-3) in the absence of a socket head screw for bleeding purposes. Tighten the bleeder screws (or fittings).

14. Upon completion of the bleeding procedures, reconnect the electrical service and operate the table through its cycles, RAISE and LOWER, HEAD DN and HEAD UP.

15. Check all fittings, screws and other hardware to ensure complete tightness.

CAUTION: When replacing the covers, be certain that the cover gaskets are properly positioned.

16. Replace all covers and pedals and recheck table for correct operation in all positions. The table should raise and lower without any noticeable jerk and should traverse the 90° arc smoothly.

SECTION 5

HYDRAULIC SYSTEM

5-1. GENERAL.

Schematic diagrams of the hydraulic system are shown in Fig. 5-1. When the desired control pedal is depressed, the motor control switch is closed, the motor-pump assembly starts and pressurizes the system. Pressurized oil is transmitted through the actuated control valve to the desired cylinder, producing motion in the table.

When the HEAD UP pedal is actuated, the oil is directed to the shaft end of the Trendelenburg cylinder causing the table to tilt. As it passes through the safety zone, which is approximate 25° HEAD UP position, a cam actuates the vertical shaft which in turn redirects the oil through a valve located in the sump to the raise cylinder. This causes the table to raise and will continue to the top if the pedal is held down. When the table reaches the top, a second valve, located at the top of the vertical column, is opened by the carriage assembly and again redirects the oil into the shaft end of the Trendelenburg cylinder to complete the 75° HEAD UP position.

After the safety zone has passed, the table can no longer be lowered. This is a protective feature to prevent damage to the table or to the floor during the operation.

5-2. EMERGENCY PUMP.

The emergency pump (84, Fig. 8-2) is located at the forward end of the base. It is designed to enable operation of the table when electric service is cut off. See item 10 in paragraph 3-1 for operation.

5-3. DRAINING OIL.

To drain oil from reservoir proceed as follows:

1. Remove pedals and base cover.
2. Lower table to its limit and place in a horizontal position.
3. Uncouple the pressure hose (83, Fig. 8-2) near the filter.
4. Place the end of the hose in a clean 4-quart container and start the motor. This will remove most of the sump oil. A small hand suction pump can be used to remove any remaining oil.
5. Reconnect the pressure hose securely and replace the base cover and pedals.

5-4. FILLING.

Refer to Paragraph 2-2.

5-5. FILTER.

When replacing dirty oil, replace filter (2, Fig. 8-7) in filter assembly (30, Fig. 8-2) if filter has not been replaced within three years.

5-6. HYDRAULIC OIL REPLACEMENT.

1. Solnus #100 hydraulic oil (752210-091) has been replaced with one of the following:
   - Chevron AW Hydraulic Oil, Grade 32
   - Mobil DTE 24 Hydraulic Oil
   - Shell Tellus 32 Hydraulic Oil

All three hydraulic oils can be purchased locally or the Chevron brand can be ordered from Service Company, P-764316-241.

NOTE: Starting with Serial Number 0406281-XXX, tables shipped from factory will have a tag (see Figure 1) attached to the table base. The tag will identify what type of oil was used when the table was built.

CAUTION: Do NOT mix different brands of hydraulic oil.

2. Procedure for replacing hydraulic oil.

a. Drain all oil from table sump, tubing and lift cylinder. Discard oil.

b. Wipe out sump.

c. Change oil filter assembly (P-56276-001) or oil filter cartridge (P-50697-091).

d. Refill hydraulic system using the approved Chevron oil.

e. Operate table through all positions at least once for each mode: electrical, manual, or emergency (as appropriate).

f. Drain sump, tubing and lift cylinder. Discard oil.

g. Refill hydraulic system, again using Chevron oil.

h. Operate table through all positions.

i. Mark tag (Figure 5-1, P-56397-013) with type of oil now being used. Attach tag to table base.

Figure 5-1. Hydraulic Oil Tag.

THIS EQUIPMENT WAS ORIGINALLY FILLED WITH

☐ CHEVRON AW HYDRAULIC OIL GRADE 32
☐ MOBIL DTE 24 HYDRAULIC OIL
☐ SHELL TELLUS 32 HYDRAULIC OIL

NO SUBSTITUTIONS ARE TO BE USED UNLESS SPECIFIED IN THE OPERATORS MANUAL

AMSCO PT. NO. PT. NO. 56397-013

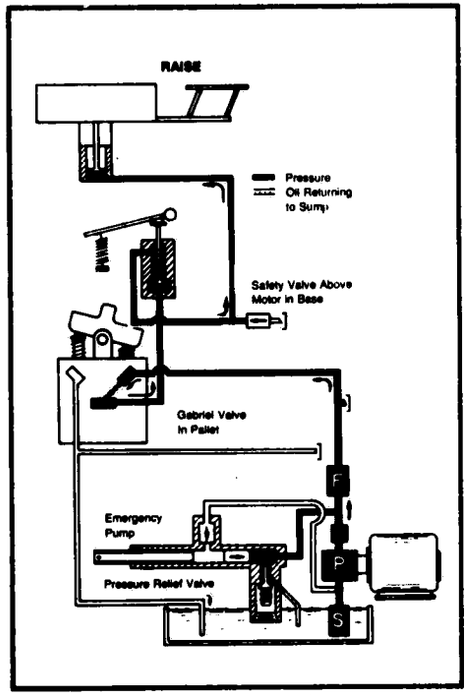


Figure 5-1A. Hydraulic Diagram.

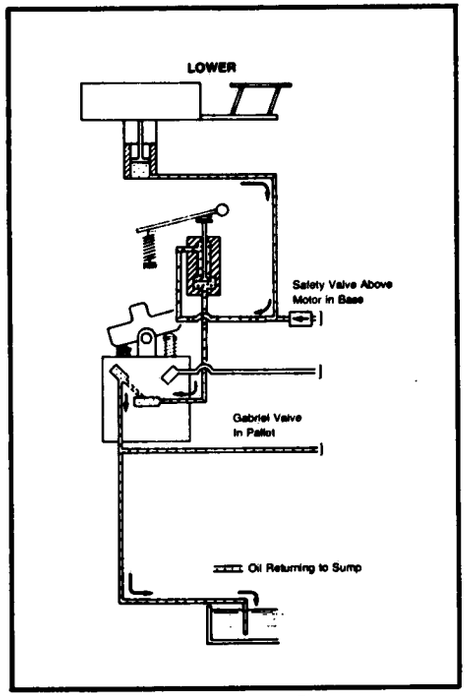


Figure 5-1B. Hydraulic Diagram.

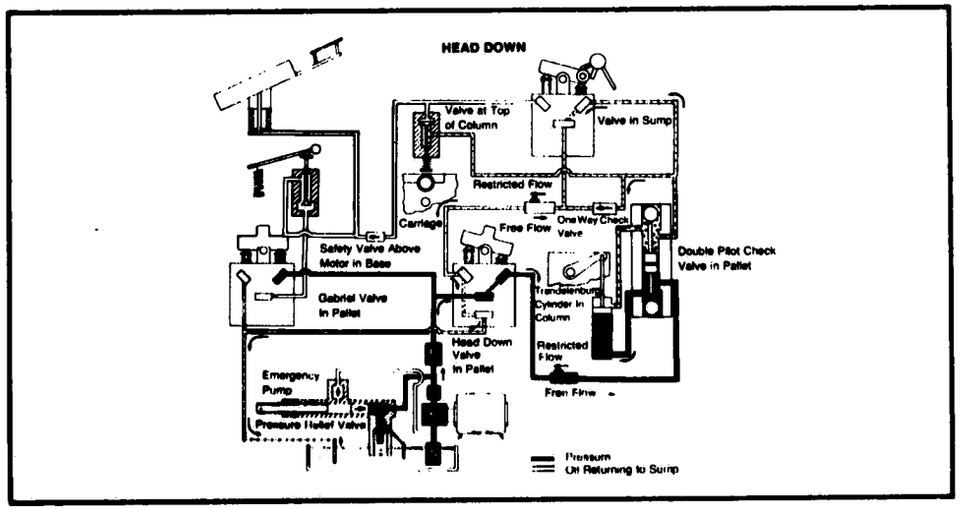


Figure 5-1C. Hydraulic Diagram.

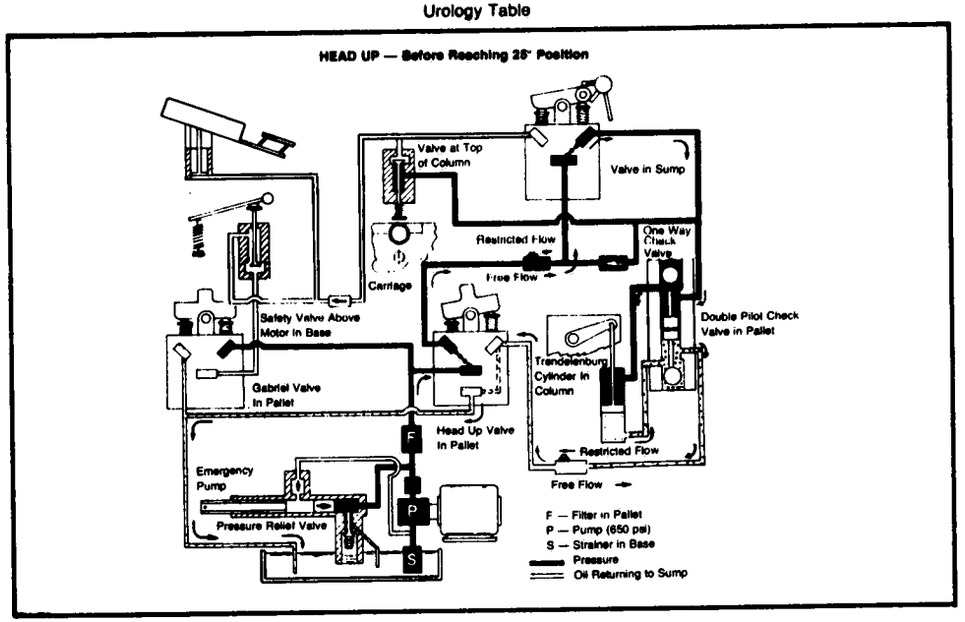


Figure 5-1D. Hydraulic Diagram.

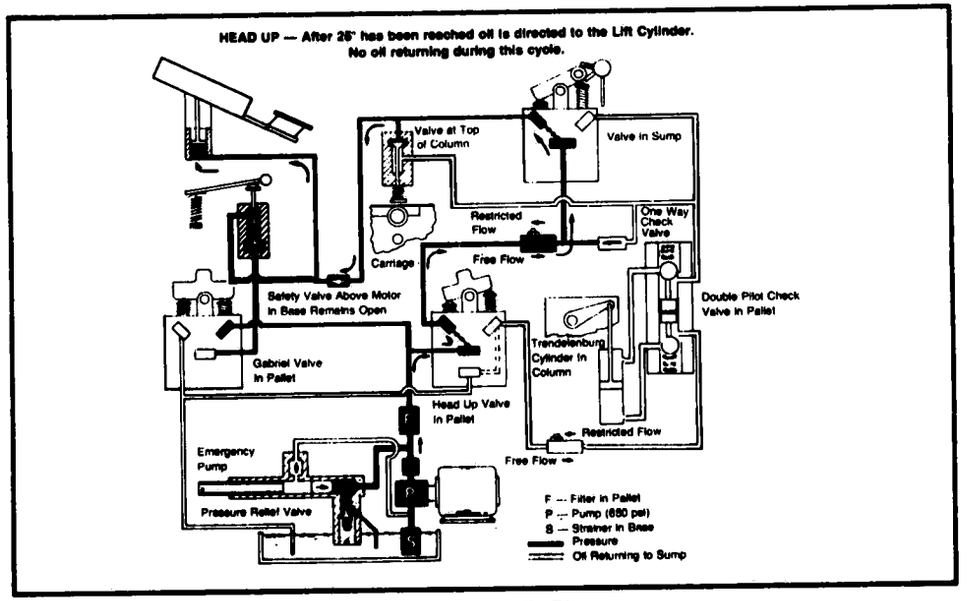


Figure 5-1E. Hydraulic Diagram.

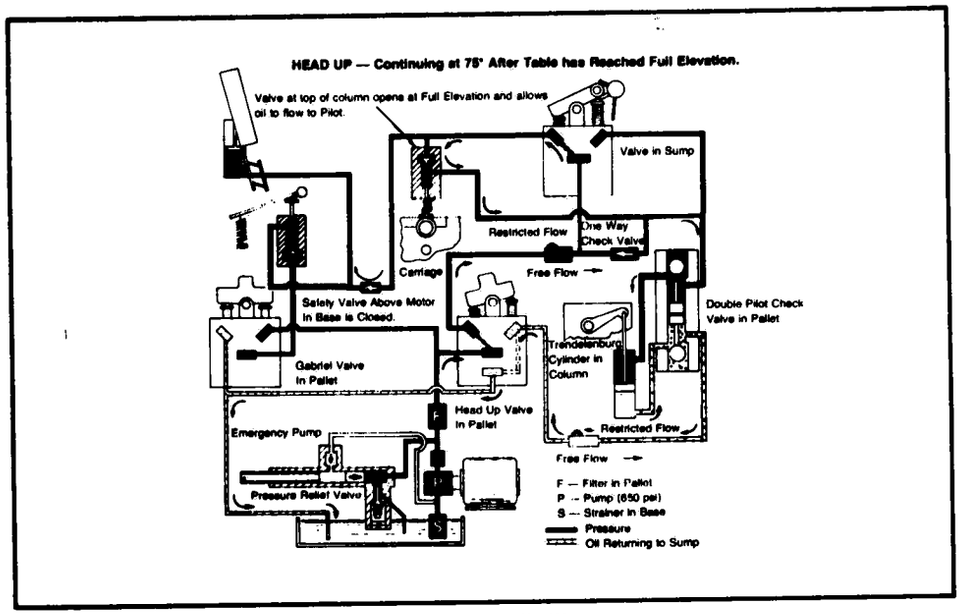


Figure 5-1F. Hydraulic Diagram.

SECTION 6

TROUBLESHOOTING

TABLE 6-1. TROUBLESHOOTING CHART

This section contains detailed information for locating and correcting the cause of table malfunctions.

TROUBLE	PROBABLE CAUSE	POSSIBLE REMEDY
Motor does not start.	Blown fuse.	Replace house fuse.
	Bent, broken or disconnected leverage.	Repair or replace damaged leverage.
	Defective motor.	Replace. (See paragraph 7-7.)
	Overloaded motor.	If motor is hot, thermo overload is open and will require a few minutes to close the line.
	Defective wiring.	Replace. **NOTE:** Check motor cord insulation for damage. A defective cord or connection could cause an explosion.
	Pump frozen.	If motor hums and heats up rapidly, pump is frozen. Replace pump motor. (See Paragraph 7-7.)
Motor starts, but table does not operate.	Insufficient oil in sump.	Find cause of oil loss. Correct and refill system with hydraulic oil. (See paragraph 5-6.)
	Broken or disconnected hydraulic lines.	Replace broken lines. Reconnect disconnected lines. Bleed. (See Section 4.)
	Screen in strainer clogged.	Clean or replace strainer. (118, Fig. 8-1.)
	Valves out of adjustment.	Readjust valves. (See Section 4.)
	Air in line.	Check for bubbles in plastic intake pump line. **NOTE:** Bubbles in plastic line can also indicate a plugged strainer. Clean or replace strainer.
	Air leak in intake line or connections.	Check connections from pump thru filter or replace intake tubing.
	Oil filter (2, Fig. 8-7) in filter assembly (30, Fig. 8-2) clogged.	Verify that filter is clogged by checking flow after filter with a pressure gauge. If necessary, replace filter.
Motor starts, but valves not operating properly.	Nylon filter (105, Fig. 8-2) clogged.	Check filter; clean or replace as necessary.

TROUBLE	PROBABLE CAUSE	POSSIBLE REMEDY
Pedals do not return to neutral.	Defective leaf spring.	Replace or add leaf springs. (109, Fig. 8-1.)
	Binding or friction while operating.	Check springs for proper position and see that screws are tight. Check all moving parts for free operation and lubrication. Check pedal for binding with cover.
Table drifts in Head Up-Head Dn position.	Leaking lines.	Check all connections and lines. Replace broken lines and tighten loose connections. Bleed system (See Section 4.)
	Leaking pilot check valve.	Replace pilot check valve (100, Fig. 8-2).
	Valve out of adjustment.	Adjust valve (See Section 4).
Table top drifts in trendelenburg or reverse trendelenburg.	Trendelenburg cylinder is bypassing oil internally. (See Section 4.)	Replace trendelenburg cylinder. (See Paragraph 7-4.)
Spongy action of table motions.	Air in system.	Check all connections and lines. Replace broken lines and tighten loose connections. Bleed system (See Section 4).
Emergency pump does not work.	Bent, disconnected or broken linkage to emergency pump.	Check linkage, repair or replace defective parts.
	Defective pump assembly.	Replace pump assembly (See Paragraph 7-11).
	Loss of prime in pump.	Replace intake check valve (3, Fig. 8-3) or replace pump (Paragraph 7-11).
Table will raise or lower but does not respond to Head Up - Head Dn control.	Sticking or defective valve (23, Fig. 8-2).	Replace valve and adjust linkage.
	Defective pilot check valve.	Replace (See Paragraph 7-8).
Table cannot be moved to Head Up or Head Dn position.	Defective hydraulic cylinder.	Replace cylinder. (See Paragraph 7-4).
	Broken or disconnected linkage from Head Up - Head Dn pedals.	Repair or replace defective part.
	Broken or disconnected line to Trendelenburg cylinder.	Repair or replace defective lines and connections. Bleed.
Chatter when table is raised or lowered.	Air in elevation cylinder.	Check oil level. Bleed.
Motor fails to stop when Head Up - Head Dn foot pedal is released.	The Trendelenburg lever (19, Fig. 8-2) and the Switch lever (8, Fig. 8-2) have rotated beyond their normal travel.	Remove the base cover and rotate the Trendelenburg lever counterclockwise. Rotate the switch lever counterclockwise past the Trendelenburg lever. If trouble persists, order one each of of 45559-91 and 47720-91 to replace existing parts.
	Defective motor switch.	Replace.

SECTION 7

COMPONENT REPLACEMENT

7-1. PADS

The rubber mattress pads (1 and 2, Fig. 8-9) are supplied with a special adhesive strip sewed to the back. To remove the pads, simply "peel" off as you would peel off a piece of tape.

7-2. STANDARD ACCESSORIES.

The removable accessories to the Model 110 Urology Table, such as the shoulder supports and intravenous arm support are mounted on clamps which slide along the side rails (8, Fig. 3-1) of the table and lock in any desired position. To remove such accessories, release the slide lock and slide clamp off the end of the rail. See Fig. 8-11 for additional accessories.

7-3. LIFT CYLINDER.

To remove the lift cylinder (45, Fig. 8-1) from the base, proceed as follows:

Raise the table to its maximum height. Remove the pedals and base covers. Remove four #8-32 socket button head screws. (6, Fig. 8-5) in the front plate (31, Fig. 8-5) that fasten the top and lower springs to the bearing housing in the vertical column. Remove the cover (7, Fig. 8-5).

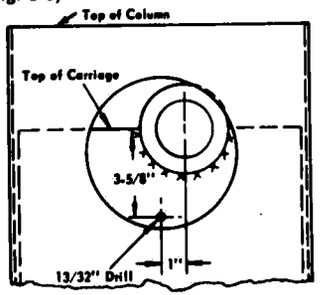


Figure 7-1. Carriage

CAUTION: If drilling is required, do not allow the chips to fall into the oil sump and do not drill through oil lines in this area.

Examine the carriage (17, Fig. 8-1) for presence of a 13/32 inch diameter hole for a safety screw as shown in Fig. 7-1. If this hole does not exist, drill a 13/32-inch diameter hole in the back of the carriage as per sketch, Fig. 7-1.

Insert the pedal screw (23, Fig. 8-5) into the drilled hole and lower the table until the bolt head hits the column. The table is now safe for repairs. Disconnect the tubing (50, Fig. 8-1) from the elbow (49, Fig. 8-1). Remove the hose clamp from the cylinder. Force the lift cylinder (45, Fig. 8-1) down by hand to its lowest position. Disconnect the black colored pressure hose (83, Fig. 8-2) at the filter tee and place the end in a clean can for removal of the oil in the sump. (Capacity is approximately 3 quarts). Actuate the motor switch to start the oil flowing into the can.

Remove the screws (47, Fig. 8-1) and lock washers (48, Fig. 8-1) using the long (special) Allen wrench. The cylinder can now be lifted out. For reassembly, follow the above steps in reverse order. The hose clamp must be located approximately 3 inches from the top of the sump.

NOTE: On lift cylinder, if screw head in shaft assembly cuts O-ring causing it to leak, replace O-ring and add a washer, part P-26032-091, between O-ring and screw head. See Figure 8-4.

7-4. TRENDELENBURG CYLINDER.

If replacement of the Trendelenburg cylinder is indicated, entire table should be returned to AMSCO.

WARNING: KEEP FINGERS AWAY FROM COLUMN OPENING TO AVOID INJURY TO FINGERS IN THE EVENT CARRIAGE SHOULD SLIP.

However, if it becomes necessary to replace the cylinder in the field, proceed as follows: Remove superstructure assembly as shown in Paragraph 7-6. Raise the carriage (17, Fig. 8-1) approximately half the way

up the column. Remove the clamp (46, Fig. 8-1) and two hoses (44, Fig. 8-1) from the elbows (58, Fig. 8-2). Remove four screws (6, Fig. 8-1) from the brace (4, Fig. 8-1 and remove the brace. Remove the safety valve (8, Fig. 8-1) from the column and also tubing (14, Fig. 8-1). The carriage and cylinder can now be lifted from the column. Slightly move the tubing (15, Fig. 8-1).

Remove the eight screws (33, Fig. 8-1) to free the cylinder from the carriage. A new cylinder may now be installed and the carriage reassembled in the column in reverse order.

NOTE: Be sure that the shaft (5, Fig. 8-1) is in correct position in the oil sump so that the top protruding ears must enclose the bearing on the valve actuator (55, Fig. 8-1).

7-5. FOOT SECTION.

To remove the foot section, remove the stops (10, Fig. 8-9) from assembly (1, Fig. 8-6) and pull on the handle (26, Fig. 8-8). The foot section will slide from the superstructure assembly.

CAUTION: When removing superstructure, do not allow it to strike the base.

7-6. SUPERSTRUCTURE ASSEMBLY.

Remove the pedals and base covers. Remove four #8-32 socket button head screws (6, Fig. 8-5) in the front plate (31, Fig. 8-5) that fasten the top and lower springs to the bearing housing in the vertical column. Remove cover (7, Fig. 8-5). Raise table to its top position, and for right hand table, take to extreme Head Down position. For left hand table, take top to extreme Head Up position. Drive the roll pin from the clevis (39, Fig. 8-1). Drive the pin (38, Fig. 8-1) through the clevis. The table top is now free from the clevis. For a right hand table, lower the cylinder shaft by pressing the HEAD DN pedal. For left hand table, lower the cylinder shaft by pressing the HEAD UP pedal. Remove two screws securing the cam (Fig. 2-1) and remove the cam. Lower the table to its lowest position.

Remove four screws (22, Fig. 8-1) and cap from the carriage (17, Fig. 8-1). Three or four men can now lift the superstructure assembly (Fig. 8-6) away from the table column and base.

CAUTION: Use care in withdrawing the tubing (77, Fig. 8-2) from oil sump.

7-7. MOTOR AND PUMP.

Disconnect electrical service, wires and conduit to the motor. Disconnect the hydraulic lines (88, Fig. 8-2) and (83, Fig. 8-2) and (116, Fig. 8-1). Have rags ready to catch a small amount of oil. Remove four nuts (93, Figure 8-2) and lock washers (4, Fig. 8-2) from the motor mount. Remove the spring (98, Fig. 8-2) from pallet (1, Fig. 8-2). Remove the adjusting rod assembly (98, Fig. 8-1). Lift the motor and pump from the pallet. Install the new motor and pump assembly in reverse order.

7-8. PILOT CHECK VALVE.

Remove the base cover (19, Fig. 8-5). Disconnect the four hydraulic tubes (50, 53, 57 & 62, Fig. 8-2) from the pilot check valve(100,Fig. 8-2). Loosen screw (16, Fig. 8-2) from bracket (64, Fig. 8-2) and remove pilot check valve (100, Fig. 8-2). Replace in reverse order.

CAUTION: If drilling is required, do not allow the chips to fall into the oil sump.

A leaky pilot check valve (item 100, Fig. 8-2), not leaky Gabriel valves (item 23, Fig. 8-2), will cause Table to drift when it is in the Trendelenburg position. To prevent this situation, all units shipped after December, 1976 have "new-style" pilot check valves: Each valve now has a steel ball and "delrin" seat. This "new-style" valve has manufacturer's identification number 12-1868-ID.

If pilot check valve in a Table shipped before December, 1976 has to be replaced, order P-93359-001.

7-9. CONTROL VALVES.

To remove RAISE or TREN control valves (23, Fig. 8-2) proceed as follows. Raise the table to its highest position and to full Head Down position. Remove the pedals by removing the plug buttons and socket head screws securing the pedals. Remove the base covers (5, 10 and 19, Fig. 8-5). Remove four #8-32 socket button head screws (6, Fig. 8-5) in the front plate (31, Fig. 8-5) that fasten the top and lower springs to the bearing housing in the vertical column. Remove the cover (7, Fig. 8-5). Examine the carriage (17, Fig. 8-1) for presence of a 13/32 inch diameter hole for a safety screw as shown in Fig. 7-1. If this hole does not exist, drill a 13/32 inch diameter hole in the back of the carriage as per sketch Fig. 7-1.

Insert a pedal screw (23, Fig. 8-5) into the drilled hole and lower the table until the bolt head hits the

column. The table is now safe for repairs. Place table in Head Dn. position. Remove the two rod assemblies(98, and 99, Fig. 8-1). Remove the springs (59, Fig. 8-1) and disconnect the oil line (48, Fig. 8-2) at end plate (36, Fig. 8-2) and elevate to prevent loss of oil. Remove oil lines (44, 51 and 46, Fig. 8-2). Disconnect the oil line (78, Fig. 8-1) at (75, Fig. 8-1). Remove three screws (39, Fig. 8-2). Disconnect the hose (83, Fig. 8-2) and tubing (86, Fig. 8-2) at the cross (32, Fig. 8-2). The manifolds and valves may now be removed for further service work.

7-10. SAFETY VALVES.

To remove the safety valves (8, Fig. 8-1) located at the top of column, proceed as follows. Remove cover (5, Fig. 8-5). Disconnect the oil lines to the safety valve and remove two screws securing valve. Install a new safety valve in reverse order.

To remove the safety valve (63, Fig. 8-1) located at the bottom of the column, proceed as follows. Lower the table to its lowest position. Remove the spring (59, Fig. 8-1). Disconnect the oil lines to the safety valve and remove the two screws (57, Fig. 8-1) securing the safety valve and spring bracket. Install new safety valve in reverse order.

7-11. EMERGENCY PUMP.

Remove the cover (19, Fig. 8-5). Lower table and disconnect the hydraulic lines (86 and 88, Fig. 8-2) and (78, Fig. 8-1) at pump (84, Fig. 8-2). Have rags ready to catch a small amount of oil.

NOTE: Elevate outlet of tubing, (88, Fig. 8-2) above motor, to prevent siphoning.

Install new pump in reverse order. Bleed.

7-12. X-RAY MOUNTING BRACKET.

Due to the x-ray head mounting regulation stemming from Radiation Control for Health and Safety Act of October 18, 1968 (Department of Health Education and Welfare, Bureau of Radiological Health), a new bracket was designed for mounting x-ray heads to GU-110 tables. Units shipped after November 26, 1975, have these "new" brackets. One end of the "new" x-ray mounting bracket is designed to accept Machlett trunion bracket for (1) 50 series tube units having direct mounted collimators and (2) common European tube supports. The other end is designed to accept General Electric Maxiray 75 tube units with Sentry Collimators. To replace carriage assembly (items 3 thru 15, Figure 8-10 in manual) with "new" mounting bracket on units shipped before November 26, 1975, order mounting bracket M-142982-001, and four cup point setscrews, P-31799-091. Remove carriage assembly (includes items 3 thru 15) and install mounting bracket on rods (item 16) with the four setscrews.

7-13. BUCKY SHAFT.

Shaft (7, Figure 8-6) may shift out of bushing, allowing bucky and tube assembly to tilt forward. This condition will make bucky and tube assembly inoperative. Tables shipped after January, 1977 have a "new" shaft that is secured by two nylock setscrews. The perineal end of the "new" shaft is grooved to receive a setscrew.

When it becomes necessary to replace the "old" shaft (no groove at either end), order "new" shaft 83990-091 and two nylock setscrews 36883-061.

If the customer desires, modify the "old" shaft as follows:

1. Remove four screws securing head end cover plate (29, Fig. 8-9).
2. Lift off cover plate.
3. Remove two setscrews (3, Fig. 8-6) securing shaft (7, Fig. 8-6).
4. While supporting bucky and tube assembly, carefully remove the shaft.
5. Using a No. 10 drill bit, drill a 1/8 inch deep hole in the perineal end of the shaft at the point of setscrew contact.
6. Reassemble the shaft with the two setscrews, being certain that the setscrew at the perineal end engages the hole in the shaft.
7. Reassemble head end cover plate using the four screws.

7-14. OIL FILTER ASSEMBLY

Oil filter assembly P-50704-091 (see Figure 8-7) is no longer available. A new-style, stainless-steel oil filter assembly without bosses has been designed. (NOTE: The new-style assembly is heavier than the old-style one.)

When old-style oil filter assembly has to be replaced, order and install new-style oil filter assembly P-56276-001 (see item 30 on Figure 8-2 and Figure 8-7A), and discard the old-style oil filter assembly. Then test oil filter unit as follows: Depress RAISE control pedal. The motor control switch is closed, and the motor-pump assembly starts and pressurizes the system. Pressurized oil is transmitted through the control valve to the cylinder, producing motion in the table. Note that oil flows through the oil filter.

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SECTION 8
PARTS BREAKDOWN

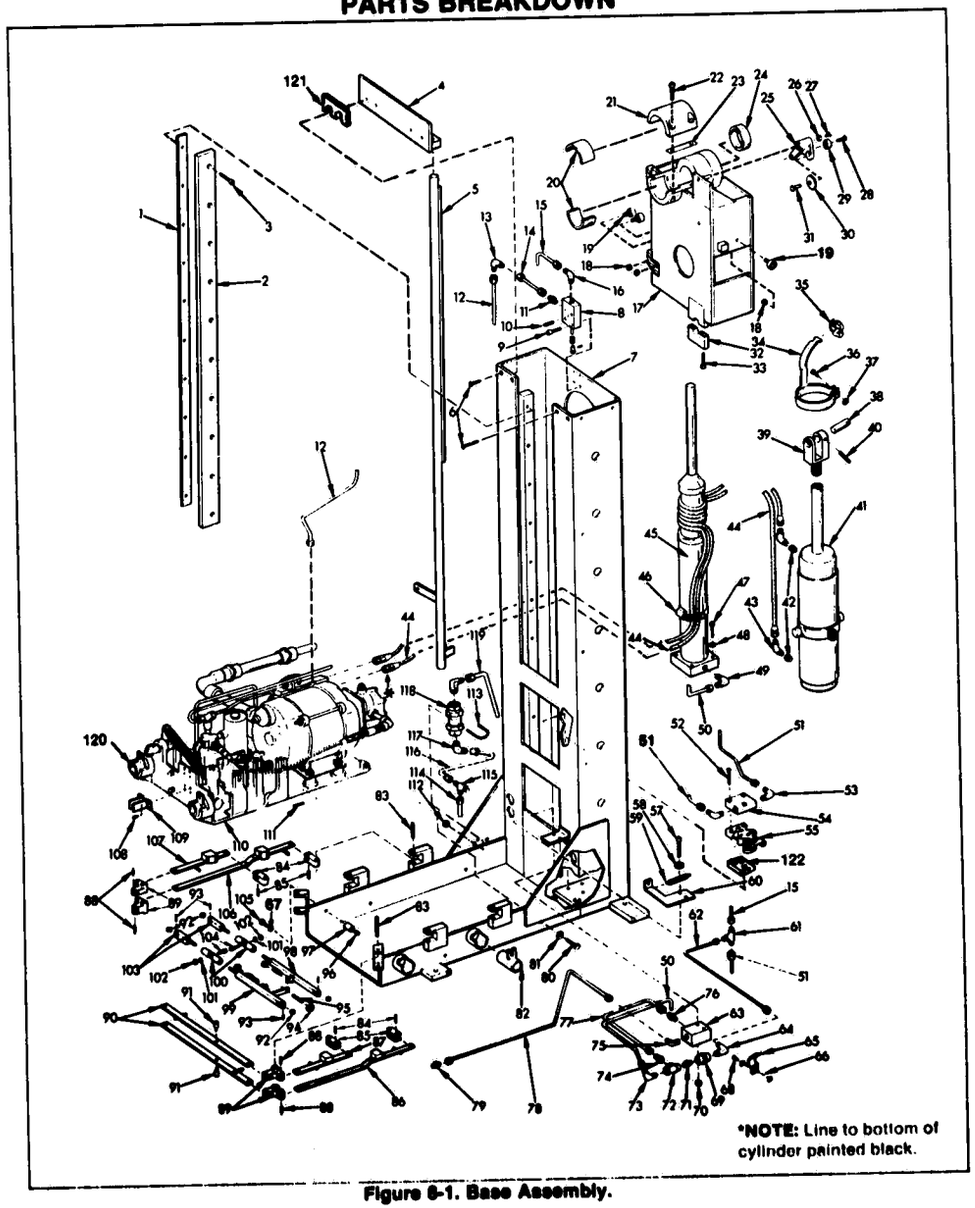


Figure 8-1. Base Assembly.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-1-	134350-001	BASE ASSEMBLY, Right Hand Table (Inc. Items 1 thru 119)	Ref.
	134350-002	BASE ASSEMBLY, Left Hand Table	Ref.
-1	45459-045	SHIM	1
-2	45427-091	TRACK	1
-3	48060-091	SCREW, Cap — Soc. Hd., 1/4-20 x 3/4 Inch	10
-4	47694-020	BRACE	1
-5	45409-045	SHAFT ASSEMBLY	1
-6	3953-041	SCREW, Flat Hd., 1/4-20 x 1/2 Inch	4
-7	134348-001	FRAME, Base	1
-8	50865-091	VALVE, Safety	1
-9	11266-045	SCREW, Cap — Soc. Hd., 1/4-20 x 1 Inch	2
-10	43229-061	PIN, Roll, 3/16 dia. x 1 Inch	2
-11	45565-091	CONNECTOR, Male, 1/4 IPS x 1/4 Inch ODT	1
-12	46091-091	TUBING, 1/4 Inch ODT	1
-13	81066-001	ELBOW, 1/4 ODT x 1/4	1
-14	47049-091	TUBING, 1/4 Inch ODT	1
-15	46095-091	TUBING, 1/4 Inch ODT Copper	1
-16	45407-091	ELBOW, Male, 1/4 IPS x 1/4 Inch ODT	1
-17	134349-001	CARRIAGE ASSEMBLY (Inc. Items 18, 19, 34, 35, 36, 37, 41, 42, 43, 44)	1
-18	15297-091	NUT, 3/8-24	8
-19	45272-091	ROLLER	7
-20	45562-091	BEARING, Split	1
-21		TUBE HALF (Part of 45469 tube)	1
-22	42599-045	SCREW, Cap — Soc. Hd., 5/16-18 x 1/4 Inch	4
-23	47027-091	SHIM	2
-24	45531-091	BEARING, Sleeve	1
-25	45388-091	LEVER, Right Hand Table Only	1
	47546-091	LEVER, Left Hand Table Only	1
-26	5511-041	WASHER, Brass	1
-27	37344-048	SCREW, Cap — Bot. Hd. Soc., 10-24 x 3/8 Inch	1
-28	45402-061	SHAFT	1
-29	45965-091	BEARING, Ball	1
-30	45394-091	ROLLER, Wheel	1
-31	45745-045	PIN, Roller	1
-32		BLOCK, Trunion	2
-33	45606-091	SCREW, Cap — Soc. Hd., 1/4-20 x 1-3/4 Inch	8
-34	53818-045	HANGER	1
-35	46041-091	CLAMP	1
-36	25434-041	SCREW	1
-37	2960-042	NUT	1
-38	45431-061	PIN, 5/8 dia. x 1-5/8 Inch	1
-39	45417-091	CLEVIS	1
-40	47979-061	PIN, Roll, 3/16 x 1-1/4 Inch	1
-41	45435-091	CYLINDER, Trendelenburg	1
	762390-001	KIT, Trendelenburg Cylinder Repair	A/R
-42	849-042	BUSHING, Reducing, 3/8 NPS x 1/4 NPS	2
-43	46099-091	ELBOW, Male, 1/4 IPS x 1/4 Inch ODT	2
-44	45643-091	HOSE, Trendelenburg	4
-45	59234-091	CYLINDER ASSEMBLY, Lift (See Fig. 7-1 for details)	1
-46	46036-091	CLAMP	1
-47	45613-091	SCREW, Cap — Soc. Hd., 1/4-20 x 1-1/2 Inch	4
-48	19678-045	LOCKWASHER, 1/4 Inch	4
-49	45407-091	ELBOW, Male, 1/4 IPS x 1/4 Inch ODT	1
-50	46069-091	TUBING, 1/4 Inch ODT x 17-11/32 Copper	1

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-1-51	46094-091	TUBING, 1/4 Inch ODT x 12-1/32 Copper	1
-52	38675-041	SCREW, Flat Hd., 10-32 x 1-3/4 Inch	3
-53	42510-091	ELBOW, Male, 1/8 IPS x 1/4 Inch ODT	3
-54	42526-091	PLATE, Sub	1
-55	52191-091	VALVE ASSEMBLY	1
-56	53441-091	TUBING, 1/4 Inch ODT	1
-57	45613-091	SCREW, Cap — Soc. Hd., 1/4-20 x 1-1/2 Inch	2
-58	31599-041	WASHER	4
-59	45686-091	SPRING	1
-60	47016-045	BRACKET, Spring	1
-61	46097-091	TEE, 1/4 Inch ODT	1
-62	46087-091	TUBING, 1/4 Inch ODT, 11-7/16 Copper	1
-63	50865-091	VALVE ASSEMBLY, Safety	1
-64	45407-091	ELBOW, Male, 1/4 IPS x 1/4 Inch ODT	1
-65	43964-045	CLAMP, Conduit	1
-66	3097-041	NUT	1
-67	19678-045	LOCKWASHER	1
-68	3848-051	SCREW	1
-69	45589-091	COUPLING, 1/4 Inch IPS	2
-70	3040-042	NUT, 1/4-20	1
-71	43648-091	VALVE, Check	1
-72	45478-091	TEE, 1/4 Inch IPS	1
-73	45407-091	ELBOW, Male, 1/4 IPS x 1/4 Inch ODT	1
-74	45565-091	CONNECTOR, Male, 1/4 IPS x 1/4 Inch Copper	1
-75	45407-091	ELBOW, Male, 1/4 IPS x 1/4 Inch ODT	1
-76	45565-091	CONNECTOR, Male, 1/4 IPS x 1/4 Inch ODT	1
-77	50975-091	TUBING, 1/4 Inch ODT x 9-9/32 Inch Copper	1
-78	50976-091	TUBING, 1/4 Inch ODT x 17-1/2 Copper	1
-79	45565-091	CONNECTOR, Male, 1/4 IPS x 1/4 Inch Copper	4
-80	4685-051	SCREW, Cap — Hex. Hd., 1/4-20 x 1-1/4 Inch	4
-81	31599-041	WASHER	2
-82	45617-091	CONNECTION, Pedal	6
-83	45403-061	PIN, Roll, 1/4 Dia. x 2 Inch	4
-84	45605-061	PIN, Roll, 1/4 Dia. x 3/4 Inch	4
-85	45614-045	CLEVIS	1
-86	45639-045	BAR, Linkage Assembly (Head Dn.)	1
-87	45619-045	Rod, Pedal Assembly (Raise)	8
-88	45741-061	PIN, Roll, 1/4 Dia. x 1/2 Inch	4
-89	45615-091	CLEVIS	2
-90	45622-045	ROD, Pedal Assembly	1
-91	46090-045	PIN	4
-92	45585-091	ROLLER	4
-93	45591-061	PIN, Roller, 3/32 Dia. x 1/2 Inch	3
-94	3096-045	NUT, Hex, 5/16-18	3
-95	47715-045	SCREW	1
-96	16849-091	BUMPER PAD	1
-97	47175-045	STOP, Emergency Pump	1
-98	45586-045	ROD ASSEMBLY, Adjusting	1
-99	45635-045	ROD, Actuator Assembly	2
-100	45602-045	SLEEVE, Adjusting Rod	3
-101	19678-045	LOCKWASHER, 1/4 Inch	2
-102	3040-042	NUT	2
-103	45603-045	ROD, Adjusting	2
-104	45612-061	SHAFT	1
-105	13411-091	SCREW, Cap — Soc. Hd., 1/4-20 x 5/8 Inch	1

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-1 -106	45641-045	BAR, Linkage (Raise) Assembly	1
-107	45621-045	ROD ASSEMBLY, Pedal (Head Up)	1
-108	3967-041	SCREW, Round Hd., 8-32 x 1/4 Inch	8
-109	45747-091	SPRING	4
-110	134254-001	PALLET ASSEMBLY (See Fig. 8-2 for details)	1
-111	8898-091	PIN, Cotter, 3/32 Dia. x 1-1/2 Inch	4
-112	3040-042	NUT, 1/4-20	2
-113	31370-091	U-BOLT, 1/4-20 Thd.	1
-114	46093-091	TUBING, 3/8 Inch ODT, Poly-Flo	1
-115	79858-001	TEE, 1/4 IPS x 3/8 Inch ODT	1
-116	46046-091	TUBING, 3/8 x 10-1/8, Poly-Flo	1
-117	45530-091	ELBOW, Male, 3/8 NPS x 3/8 Inch ODT	2
-118	42542-091	STRAINER	1
-119	47098-091	TUBING, 3/8 Inch ODT Copper	1
-120	44298-091	CONNECTION, Pedal	2
-121	49734-061	SHIM	2
-122	150361-001	PLATE, Sub	1

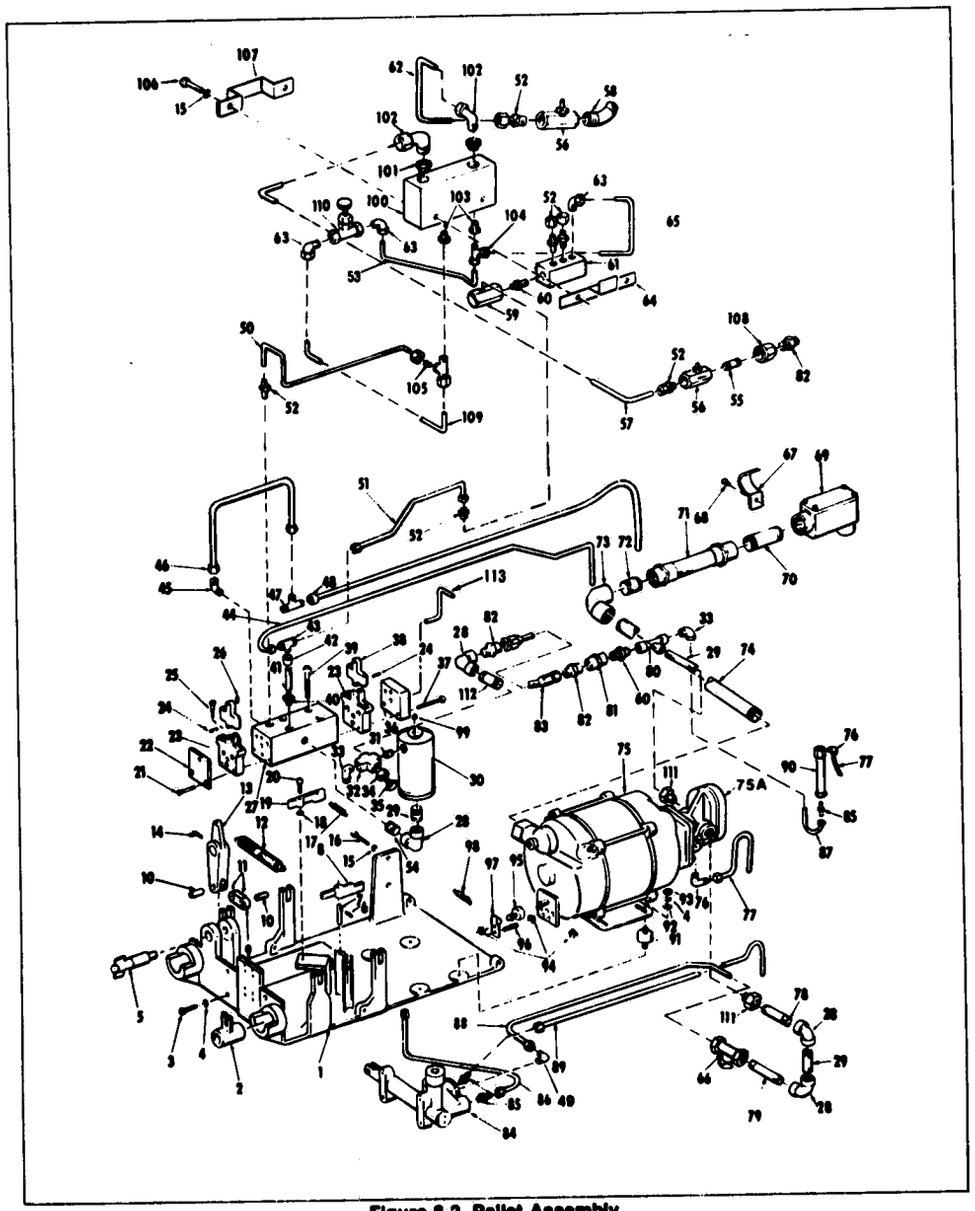


Figure 8-2. Pallet Assembly.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-2-	134254-001	PALLET ASSEMBLY	Ref.
1	59745-091	PALLET	1
2	44296-091	CONNECTION, Pedal	2
3	11286-045	SCREW, Cap-Soc. HD., 1/4-20 x 1	4
4	19676-045	WASHER, Lock, 1/4	8
5	45421-091	SHAFT	1
6	45591-061	PIN, Roll	1
7	47775-061	SHAFT, Switch	1
8	47720-091	LEVER, Switch	1
9	45430-045	LINK	1
10	45425-061	PIN, 3/8 Dia. x 7/8	2
11	27429-091	SCREW, Set-Soc. Hd., 8-32 x 3/16	2
12	45416-091	SPRING	1
13	45428-091	LEVER	1
14	25681-061	PIN, Groove 3/16 x 1-1/4	1
15	19686-061	WASHER, Lock, 1/4	2
16	37676-061	SCREW, Cap-Soc. Hd.	1
17	47777-091	SPRING	1
18	26349-091	WASHER, Insulating	1
19	45559-091	LEVER, Head Down	1
20	45739-091	SCREW, Shoulder, Soc. Hd., 10-24 x 3/4	1
	134252-001	MANIFOLD ASSEMBLY	Ref.
21 ‡	12175-045	SCREW, Flat Hd., 10-32 x 1-1/4	3
22 ‡	42513-091	PLATE, Cover	1
23 ‡	134469-008	VALVE, Control Assembly	2
24 ‡	43238-061	PIN	2
25 ‡	47030-061	PLUG, Actuator	4
26 ‡	150823-002	SCREW, Adjusting, 1/4 x 48 x 5/8	4
27 ‡	59254-091	MANIFOLD	1
28 ‡	45564-091	ELBOW, Female, 1/4 IPS, 90 degree	4
29 ‡	27422-091	NIPPLE, 1/4 IPS x 1-1/4	3
30 ‡	56276-001	FILTER ASSEMBLY (See Figure 8-7A) — Units Shipped After 2/78	1
31 ‡	33736-091	NIPPLE, 1/4 IPS x 7/8 Copper	1
32 ‡	50522-091	CROSS, 1/4 IPS	1
33 ‡	45407-091	ELBOW, 1/4 IPS x 1/4 ODT	3
34 ‡	40823-091	BUSHING, Reducing, 1/4 x 1/8	1
35 ‡	3439-091	PLUG, Pipe, 1/8	1
36 ‡	45610-045	PLATE, End	1
37 ‡	46163-091	SCREW, Cap, Soc. Hd., 10-32 x 2	3
38 ‡	45604-001	ACTUATOR	2
39	46162-091	SCREW, Socket Hd., 5/16-18 x 2	3
40 ‡	939-042	BUSHING, Reducing, 1/4 x 1/8	2
41 ‡	28902-091	NIPPLE, 1/8 IPS x 2-1/2	1
42 ‡	1306-051	COUPLING, 1/8	1
43 ‡	42561-091	TEE, 1/4 ODT x 1/8 IPS	1
44	50973-091	TUBING, 1/4 OD x 28-7/8 Copper	1
45 ‡	46056-091	ELBOW, 1/4 IPS x 3/8 ODT	3
46 ‡	46049-091	TUBING, 3/8 ODT Copper	1
47 ‡	45477-091	TEE, 1/4 IPS x 3/8 ODT	1
48 ‡	46052-091	TUBING, 3/8 ODT, Poly-Flo	1
49 †	42510-091	ELBOW, Male, 1/8 IPS x 1/4 ODT	1
50 †	92072-001	TUBING, 1/4 OD	1
51	81248-001	TUBING, 1/4 ODT	1
52 †	43289-091	FITTING, Comp. 1/8 IPS x 1/4 ODT	6

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-2-	134251-001	VALVE, Needle Assembly	Ref.
53 †	81384-001	TUBING, 1/4 ODT	1
54 †		NOT USED	
55 †	28899-091	NIPPLE, 1/8 IPS x 1	1
56 †	42605-091	VALVE, Flow Control, 1/8 IPS	2
57 †	81249-001	TUBING, 1/4 OD	1
58 †	46098-091	ELBOW, 45 Degree, Male, 1/8 IPS x 1/4 ODT	1
59 †	50966-091	MANIFOLD	1
60 †	43648-091	VALVE, Check	2
61 †	50967-091	MANIFOLD	1
62 †	81250-001	TUBING	1
63 †	42510-091	FITTING, 90 Degree Elbow, Male, 1/4 ODT x 1/8 IPS	3
64 †	81246-001	BRACKET	1
65 †	81244-001	TUBING, 1/4 OD	1
66	79658-001	TEE, 1/4 IPS x 3/8 ODT	1
67	74243-091	CLAMP, Pipe	1
68	42631-045	SCREW, Cap-Button Hd. Soc., 1/4-20 x 1/2	1
69	93347-002	JUNCTION BOX ASSEMBLY (Fixed Base)	1
	93346-001	JUNCTION BOX ASSEMBLY (Aluminum Pad) (Not Shown)	1
70	29174-051	NIPPLE, 1/2 IPS x 4	1
71	74245-NLA	COUPLING, 1/2 Flexible (SUB: 150491-001)	1
72	29163-044	NIPPLE, 1/2 IPS x 1-1/4	1
73	74244-NLA	ELBOW, 90 Degree Female (SUB: 150490-001)	1
74	29185-091	NIPPLE, 1/2 IPS x 6-3/4	1
75	134069-001	MOTOR AND PUMP ASSEMBLY	1
75A	759206-001	PUMP (ONLY)	1
76	46055-091	ELBOW, 1/4 IPS x 3/8 ODT	1
77	79657-001	TUBING, 3/8 ODT	1
78	33736-091	NIPPLE, 1/4 IPS x 1-1/8	1
79	28931-091	NIPPLE, 1/4 IPS x 4-1/2	1
80	4906-091	TEE, 1/4 IPS	1
81	45589-091	COUPLING, 1/4 IPS x 1/4 ODT	1
82 †	45609-091	CONNECTOR, 1/4 IPS x 1/4 ODT	3
83	45681-091	HOSE, 7/16-20 Thd. Ends	1
84	97273-091	PUMP ASSEMBLY, Emergency (See Figure 8-3 for details)	1
85 ‡	45565-091	FITTING, Comp. 1/4 IPS x 1/4 ODT	4
86	47716-091	TUBING, 1/4 IPS x 1/4 ODT	1
87	79618-001	TUBING	1
88	46093-091	TUBING, 3/8 ODT, Poly-Flor	1
89	46048-091	TUBING, 1/4 ODT x 27-1/32 Poly-Flo	1
90	80920-045	VALVE, Relief, 1/4 IPS	1
91	45744-091	MOUNT, Motor	4
92	5575-091	WASHER, Flat	4
93	3097-041	NUT, Hex, 1/4-20	4
94	24987-041	NUT, Jam, 1/4-20 Hex	3
95	47717-091	STUD, Extension	1
96	47718-061	SHAFT, Lever	1
97	47719-045	LEVER, Motor	1
98	47776-091	SPRING	1
99	33591-044	PLUG, 1/8 IPS	1
100 †	92073-001	VALVE ASSEMBLY, Check Pilot — See Note* Page 8-8	1
101	849-042	• BUSHING, Reducer, 3/8 IPS x 1/4 IPS	2
102	45407-091	• ELBOW, Male, 1/4 ODT x 1/4 IPS	2
103	6223-042	• BUSHING, Reducer, 3/8 IPS x 1/8 IPS	2
104	78285-091	• TEE, Male Run, 1/4 ODT x 1/8 IPS	2

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-2-105 †	78287-091	FILTER, Insert Type Nylon	1
106 †	52718-091	SCREW, Soc. Hd., 1/4-20 x 2	2
107 †	81247-001	SUPPORT, Valve	1
108 †	9014-091	COUPLING, Reducer, 1/4 IPS x 1/8 IPS	1
109 †	81383-001	TUBING, 1/4 OD	1
110	91382-091	VALVE, Needle	1
111	78282-091	FITTING, Adapter	2
112	28922-091	NIPPLE, 1/4 IPS x 2-1/4	1
113 ‡	50976-091	TUBING	1

* **NOTE:** Pilot Check Valves, on units shipped after 12/76, have steel ball and delrin seat and are identified by manufacturer's number 12-1868-ID and AMSCO part number P-93359-001.

To convert from old style check valve to 93359-001 "new", order 760104-001 Pilot Check Valve Conversion Kit, includes S0, S1, S2, S3 to 65, 82, 100, 102, 104, 105, 107 to 110 and misc. tubing on instructions.

‡134252-001 includes items 21 to 38, 40 to 43, 45 to 48, 85, 113

†134251-001 includes 49, 50, 52, 53 to 65, 82, 100, 106 to 109

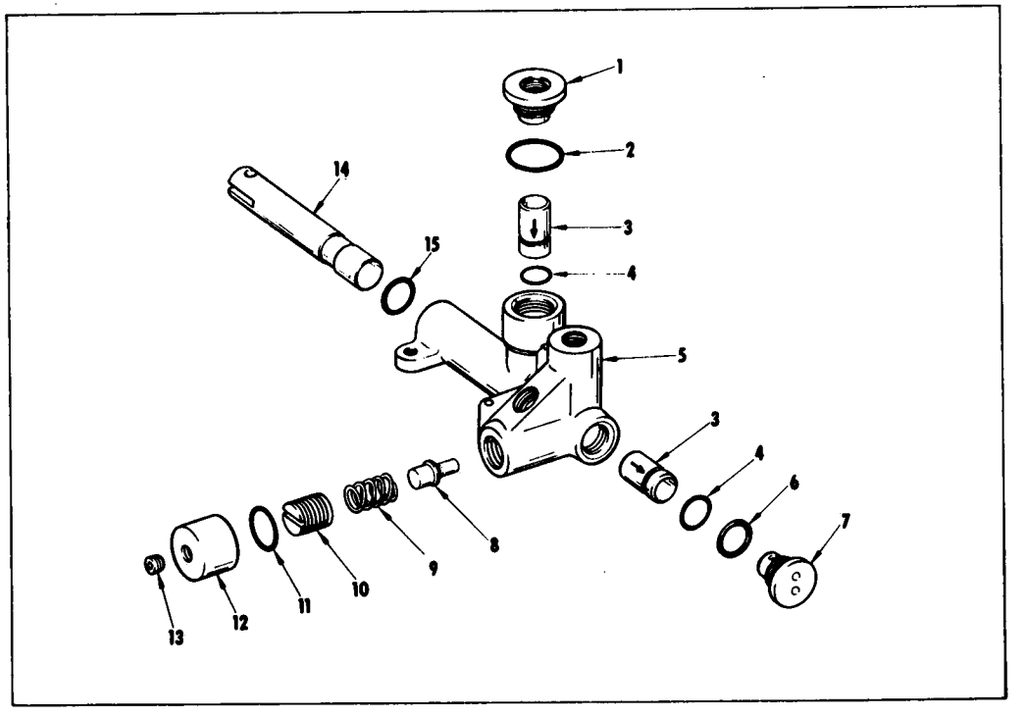


Figure 8-3. Emergency Pump.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-3-	97273-091	EMERGENCY PUMP ASSEMBLY (Inc. Items 1 thru 15)	1
1	47009-091	CAP	1
2	49327-091	GASKET	1
3	81004-045	VALVE, Check	2
4	45168-091	O-RING	2
5	97272-091	BODY, Safety Pump	1
6	49326-091	O-RING	1
7	47010-091	CAP	1
8	34086-091	PISTON	1
9	25889-091	SPRING	1
10	47008-091	PLUG	1
11	45959-091	O-RING	1
12	48887-091	CAP	1
13	42566-091	PLUG, Pipe, 1/8-27	1
14	43474-061	PISTON	1
15	43489-091	O-RING	1

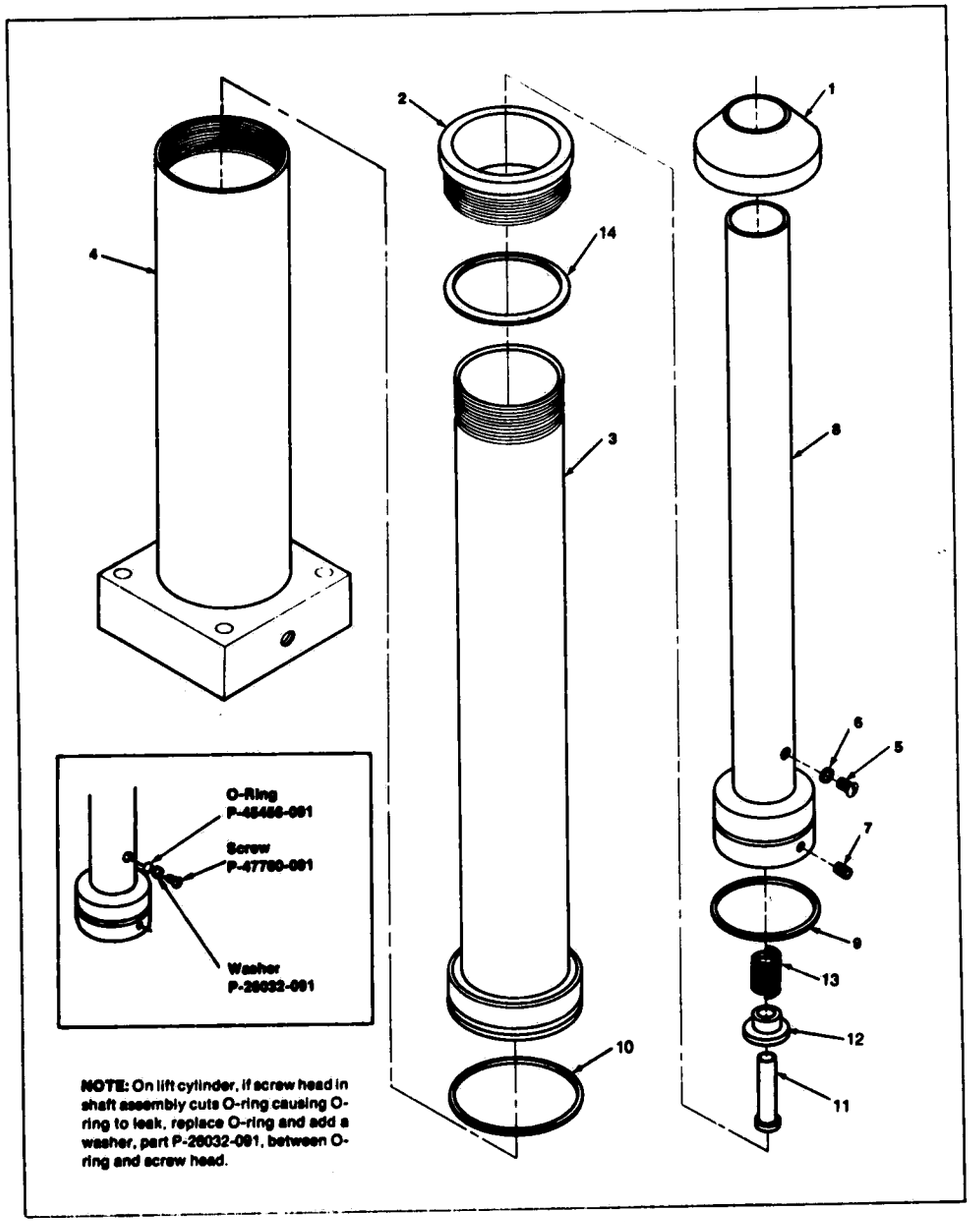


Figure 8-4. Lift Cylinder Assembly.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-4-	59234-091	LIFT CYLINDER ASSEMBLY (Inc. items 1 thru 16)	1
	59234-091	LIFT CYLINDER ASSEMBLY (Inc. items 1 thru 16)	1
1	45389-091	CAP, Cylinder	1
2	45414-091	CAP, End	1
3	45413-091	TUBE, Piston	1
4	134265-001	CYLINDER, Large (with end cap)	1
5	47760-091	SCREW, Cap, Button Hd., Socket, 4-40 x 1/4 inch	1
6	45456-091	O-RING	1
7	16918-041	SCREW, Socket Set, 10-32 x 3/8 inch	1
8	45401-001	SHAFT ASSEMBLY	1
9	45150-091	O-RING	1
10	45454-091	O-RING	1
11	45393-091	PIN	1
12	45404-091	CUSHION	1
13	45409-045	SPRING	1
14	45457-091	O-RING	1

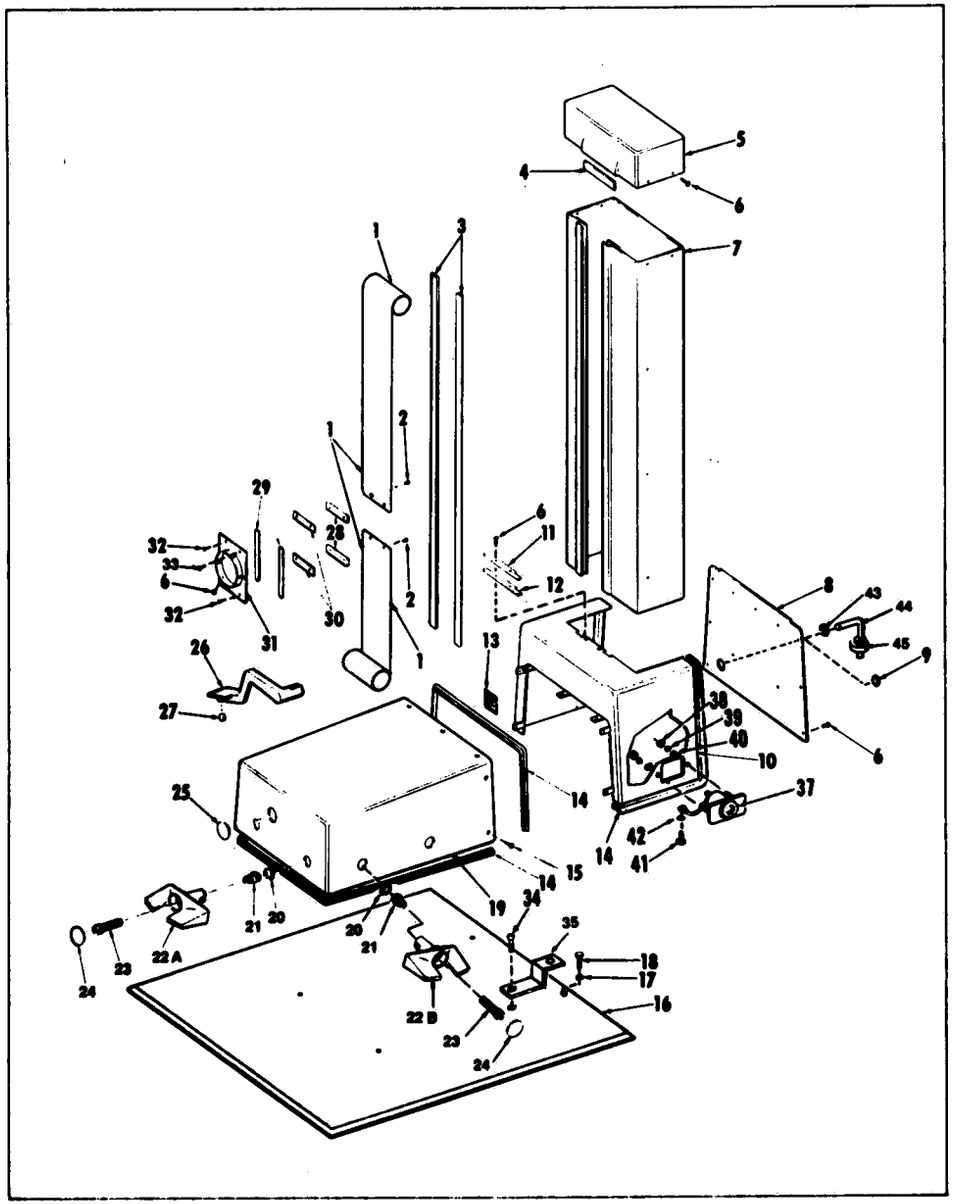


Figure 8-5. External Components.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-5-		EXTERNAL COMPONENTS	
1	45473-063	SPRING, 5-1/4 wide x 42	2
2	45470-045	NUT	4
3	R7200-901	WIPER, Felt Tape, 1-3/4 wide x 41	4
4	R7200-901	WIPER, Felt Tape, 3/4 wide x 3-3/4	1
5	53366-063	CAP, Cover	1
6	49541-042	SCREW, Cap, Button Hd., Soc., 8-32 x 1/4	22
7	53367-061	COVER, Column Assembly	1
8	45684-057	PANEL BASE	1
9	24563-056	PLUG, Button (not on Portable Table)	1
10	59253-057	COVER, Column Assembly	1
11	45676-063	RETAINER, Felt	1
12	45677-091	FELT	1
13	45971-091	PLATE, Name	1
14	46126-091	GASKET	1
15	31788-043	SCREW, Oval Hd., 10-24 x 1/2	11
16	53407-057	PAD (Use on portable table only)	1
17	19682-041	LOCKWASHER, 5/8 (Used on Pad)	4
18	46149-045	SCREW, Hex, Hd., 5/8-11 x 1-1/4 (Used on Pad)	4
19	53405-057	COVER, Base Assembly, Right Hand Table	1
	53776-057	COVER, Base Assembly, Left Hand Table	1
20	47695-091	WASHER, 1-1/2 OD x 3/4 ID x 5/16	4
21	47711-061	SPRING	4
22A	50994-091	PEDAL ASSEM. (Raise-Lower)	2
22B	50995-091	PEDAL ASSEM. (Head Dn.-Head Up)	2
23	46371-091	SCREW, 3/8-16 x 2-1/2	4
24	25890-056	PLUG, Button	4
25	36700-056	PLUG, Button	1
26	59269-043	PEDAL, Emergency Pump	1
27	16849-091	PAD, Bumper	1
28	45467-091	WIPER, Felt Tape	2
29	R7200-901	WIPER, Felt Tape, 1/2 wide x 2-7/8	2
30	R7200-901	WIPER, Felt Tape, 3/4 wide x 3-3/4	2
31	45474-063	FRONT PLATE ASSEMBLY	1
32	43274-043	SCREW, Truss Hd.	4
33	49541-042	SCREW	4
34	79852-001	SCREW, Round Hd. 10-24 x 1/2 (Use on Portable table only)	1
35	79850-001	STRAP, Jumper (Use on Portable table only)	1
36	R5300-603	COMPOUND, Sealing (Use on Portable table only) (not shown)	1
37	92493-002	GROUNDING RECEPTACLE (Only on Units Shipped After 10/74)	1
38	3038-041	NUT, Hex #8-32 (Only on Units Shipped After 10/74)	2
39	19676-041	LOCKWASHER, #8 (Only on Units Shipped After 10/74)	2
40	5561-091	WASHER, Flat (Only on Units Shipped After 10/74)	2
41	3846-041	SCREW, Hex Head, 1/4-20 x 1/2 Long (Only on Units Shipped After 10/74)	1
42	19678-045	LOCKWASHER, 1/4 (Only on Units Shipped After 10/74)	1
43	30627-091	GROMET (Only on Portable Table)	1
44	34143-091	CORD, 3 Wire (Only on Portable Table)	1
45	84498-001	CAP, Explosion Proof (Only on Portable Table)	1

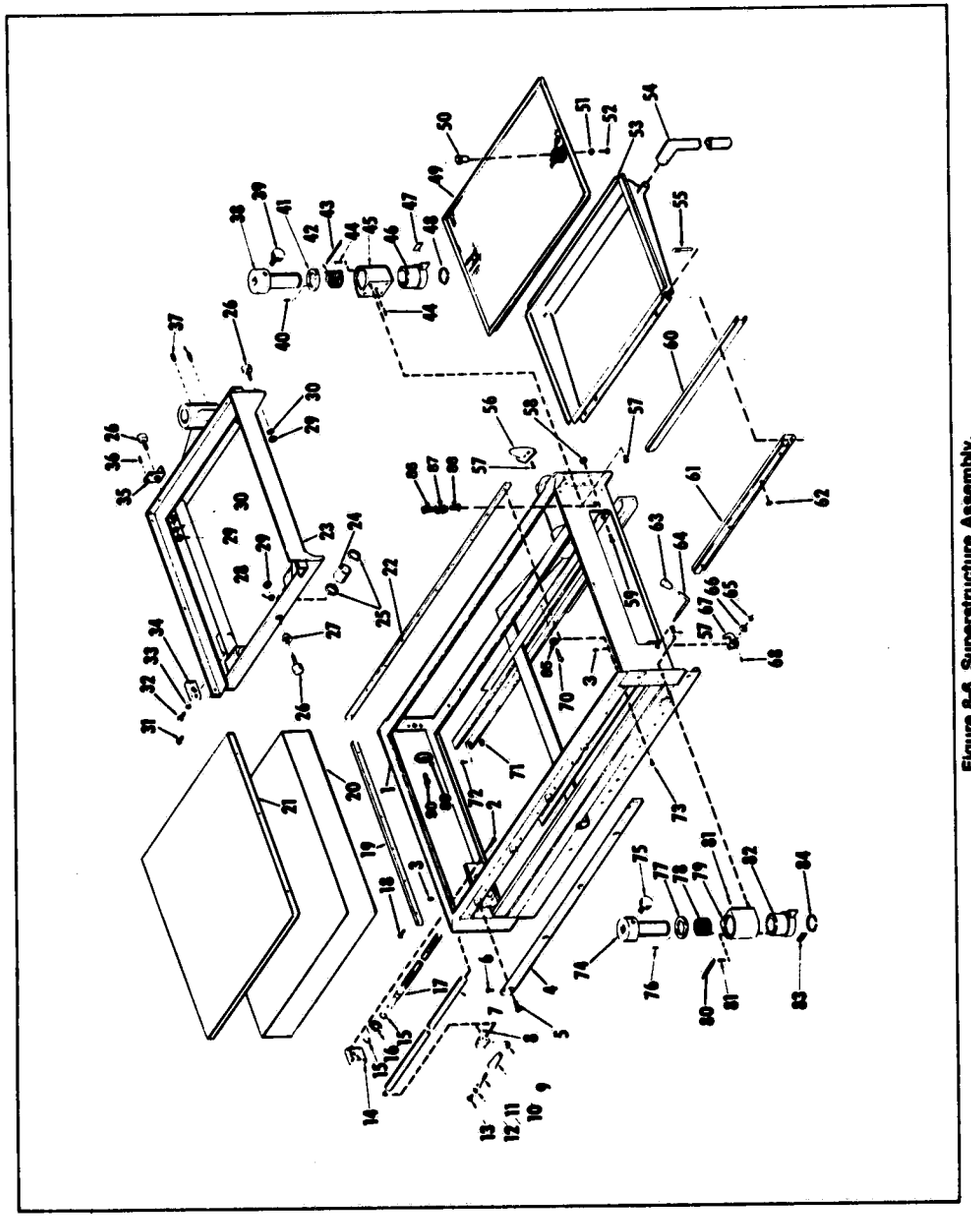
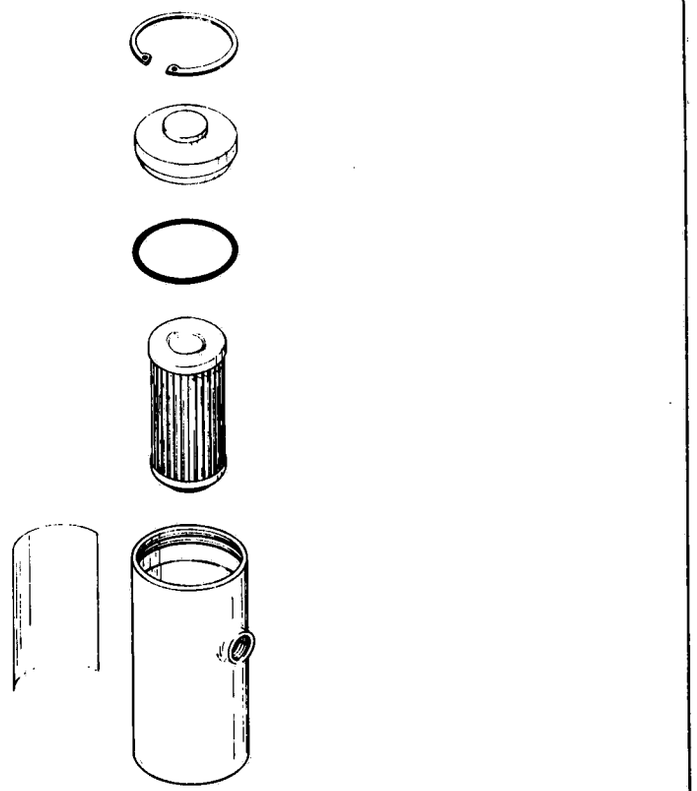


Figure 8-6. Superstructure Assembly.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-6-	134255-001	SUPERSTRUCTURE ASSEMBLY, Right Hand Table	Ref.
	134256-001	SUPERSTRUCTURE ASSEMBLY, Left Hand Table	Ref.
1	99010-010	FRAME ASSEMBLY, Table Top, Right Hand Table	1
	99011-010	FRAME ASSEMBLY, Table Top, Left Hand Table	1
2	12176-041	SCREW, Soc. Hd., 1/4-20 x 3/4	4
3	10585-041	SETSCREW (Units Shipped Before 1/77)	2
	36883-061	SETSCREW, Nylock (Units Shipped After 1/77)	2
4	44941-063	SIDERAIL	2
5	46121-056	SCREW, Soc.-Flat Hd., 5/16-18 x 7/8	8
6	15361-042	SCREW, Rd. Hd., Mac., 10-32 x 1/4	4
7	N.L.A.	SHAFT — Without Grooves (Units Shipped Before 1/77)	1
	83990-001	SHAFT — With Groove at Perineal End (Units Shipped After 1/77)	1
8	31941-061	PIN, Driv-Lok, 3/16 dia. x 7/8, Type "C"	1
9	16262-056	CRANK	1
10	7981-091	HANDLE	1
11	15918-045	STUD, Handle	1
12	10436-041	WASHER, Lock, 1/4	1
13	9306-061	SCREW, Truss Hd., 1/4-24 x 5/16	1
14	44995-042	BEARING, Housing	2
15	44909-045	RING, Retaining	1
16	45578-091	BEARING	1
17	50632-091	SCREW	16
18	46123-043	SCREW, Soc.-Flat Hd., 10-32 x 1/2	1
19	92647-001	TOP SUPPORT, End	1
20	45628-010	DIAPHRAGM, Recipromatic	1
21	N.L.A.	COVER, Bucky	2
22	92647-002	TOP SUPPORT SIDE	1
23	79014-091	BASE ASSEMBLY, Bucky, Right Hand (Inc. 24 and 25)†	1
	79013-091	BASE ASSEMBLY, Bucky, Left Hand (Inc. 24 and 25)†	2
24	30861-091	• BUSHING, Ball	4
25	30862-091	• SEAL	3
26	44947-091	BEARING, Cam Follower	1
27	44959-061	BUSHING, Eccentic	1
28	17264-042	WASHER	3
29	3126-NLA	NUT, 7/16 (SUB: 36625-045)	2
30	14943-061	LOCKWASHER	11
31	10859-041	SCREW, Truss Hd., 10-32 x 5/16	2
32	11266-045	SCREW, Cap, Soc., Hd. 1/4-20 x 1	2
33	19686-061	WASHER, Lock, 1/4	1
34	44942-043	NUT, Acme	1
35	47177-010	ANGLE	2
36	36683-061	PIN, Roll	2
37	N.L.A.	SET SCREW, Dog Point 1/2-13 x 1/2	1
38	45923-056	MAIN BEARING ASSEMBLY, LH (See 74 for RH & LH Socket)	1
	45918-091	• BEARING, Main Shaft	1
	45917-091	• TUBE, Square	1
	47172-061	• SPACER	1
39	45921-091	SCREW, Locking	2
40	36683-061	PIN, Roll	1
41	45916-045	DISC, Stop	

†**Note:** Item 23 includes provision for adjustable X-ray tube assembly.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-6-42	45913-091	SPRING, Torsion, Left Hand	1
43	47173-091	SPRING, Return	1
44	45685-061	PIN, Roll, 3/16 x 1/2 Inch	2
45	53427-056	HOUSING, Knee Crutch	1
46	45912-056	COLLAR, Release	1
47	45924-091	PLATE, Instruction	1
48	45915-045	RING, Retaining	1
49	50596-063	SCREEN ASSEMBLY, Drain (Inc. Items 50-52)	1
50	26684-055	• KNOB	2
51	20844-061	• WASHER	2
52	12531-061	• SCREW	2
53	98020-033	DRAIN TRAY	1
54	50951-091	HOSE	2
	756691-091	HOSE, 8-Foot	1
55	50595-061	PIN	2
56	45611-091	CAM, Trendelenburg	1
57	46124-056	SCREW, Soc.-Flat Hd., 1/4-20 x 3/4	10
58	8645-061	NUT, Hex, 10-32	1
59	45323-042	SCREW, But. Hd. Soc., 10-32 x 3/8	2
60	50635-091	RAIL ASSEMBLY, Left Hand	1
61	50636-091	RAIL ASSEMBLY, Right Hand	1
62	50525-061	NUT, Self Locking, 8-32	8
63	16524-051	KNOB	1
64	50625-063	HANDLE, Release	1
65	33229-041	SPRING, Washer	1
66	27750-091	WASHER, Brass	1
67	50628-061	LEVER, Rail Locking	1
68	45591-061	PIN, Roll, 3/32 x 1/2	1
69		NOT USED	
70	50527-061	SCREW, Soc. Hd. Cap No. 8-32 x 1/2	8
71	3097-041	NUT, Hexagon, 1/4	2
72	42631-045	SCREW, But. Hd. Soc., 1/4-20 x 1/2	2
73	46123-043	SCREW, Soc.,-Flat Hd., 10-32 x 1/2	26
	750586-091	KNEE CRUTCH SOCKETS, RH and LH (Inc. items 38 thru 48)	1
74	45919-056	• MAIN BEARING ASSEMBLY, Right Hand (Inc. Items on 38)	1
75	45921-091	• SCREW, Locking	1
76	36683-061	• PIN, Roll	2
77	45916-045	• DISC, Stop	1
78	45914-091	• SPRING, Torsion, Right Hand	1
79	53427-056	• HOUSING, Knee Crutch	1
80	47173-091	• SPRING, Return	1
81	45685-061	• PIN, Roll, 3/16 x 1/2	2
82	45912-056	• COLLAR, Release	1
83	45924-091	• PLATE, Instruction	1
84	45915-045	• RING, Retaining	1
85	19690-061	LOCKWASHER	8
86	79179-091	RETAINER, Shoe Brake	1
87	42610-091	SPRING	1
88	44082-045	SETSCREW	1
89	49569-061	COVER, Plate	1
90	42618-045	SCREW	2



No Longer Available †

Figure 8-7. Oil Filter Assembly (Units Shipped Before 2/78).

†**NOTE:** To replace oil filter assembly, order P-56276-001 (Figure 8-7A). See paragraph 7-14.

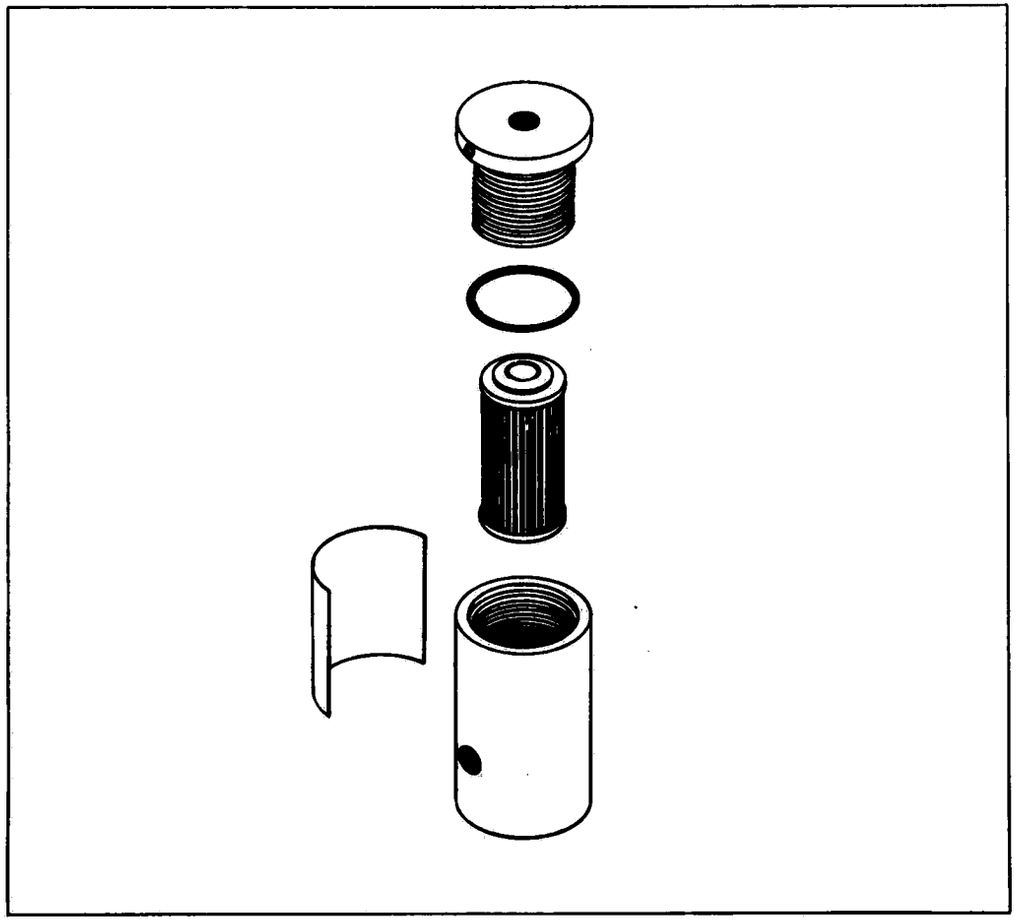


Figure 8-7A. Oil Filter Assembly (Units Shipped After 2/78).

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-7A-	56276-001	FILTER, Oil, Assembly (Units Shipped After 2/78)	Ref.

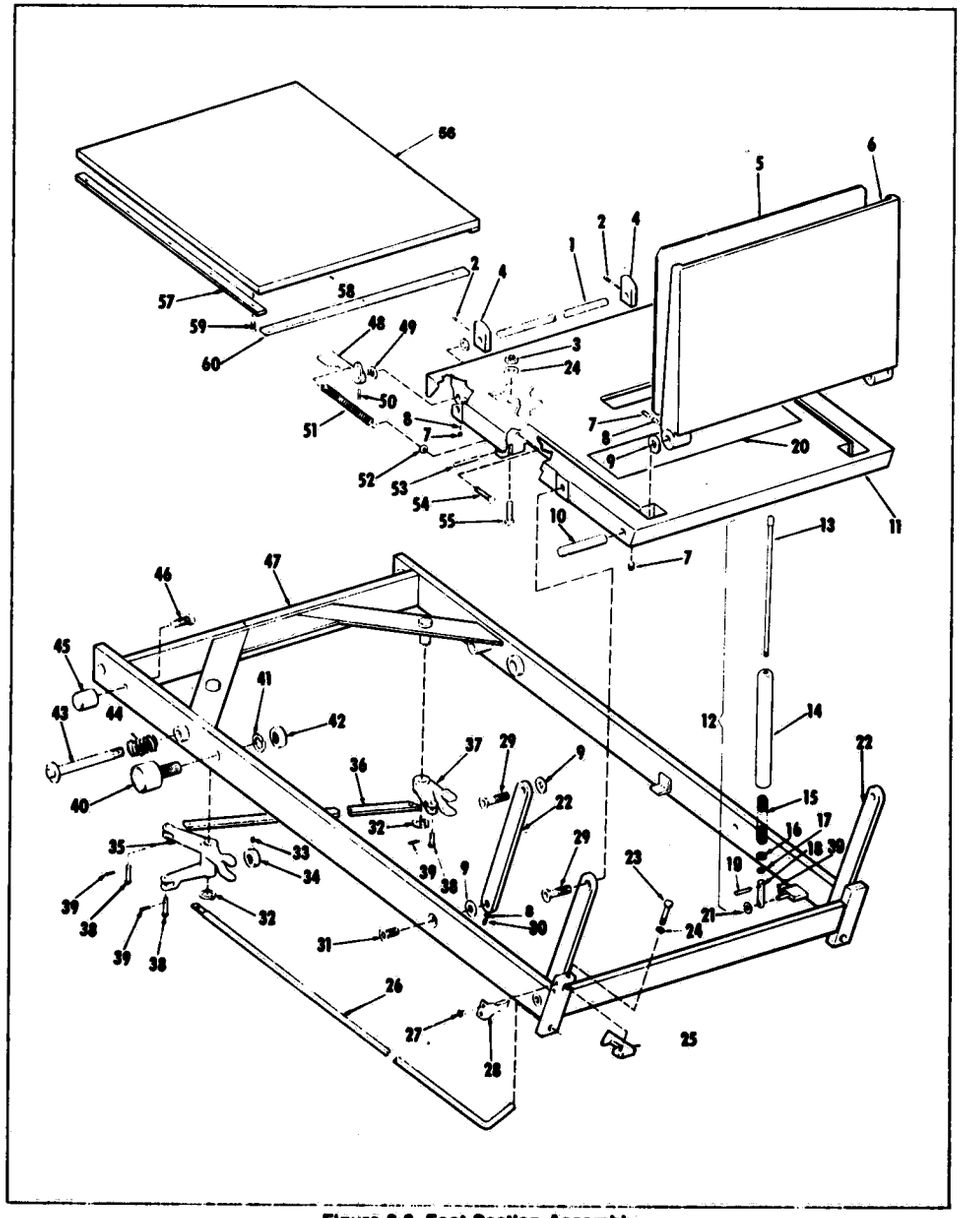


Figure 8-8. Foot Section Assembly.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-8-	134266-001	FOOT SECTION ASSEMBLY	Ref.
1	44913-061	PIN	1
2	36565-061	PIN, Roll, 1/8 x 1 Inch, Stainless Steel	2
3	3097-041	NUT, Hexagon, 1/4 x 20	2
4	44924-043	LATCH, Stop	2
5	44274-091	TREAD, Rubber	1
6	59722-034	FOOT SECTION CASTING	1
7	4772-045	SCREW, Set, Cup Pt., 1/4-20 x 1/4 Inch	8
8	22436-091	PLUG, Nylon	8
9	44912-091	WASHER, Nylon	12
10	44900-091	PIN	2
11	59723-034	FOOT SECTION, Top	1
12	49355-091	SPRING ASSEMBLY (Inc. Items 13 thru 19)	2
13	49352-061	• ROD, Spring	1
14	49351-056	• HOUSING, Spring	1
15	45375-091	• SPRING	1
16	49353-061	• WASHER	1
17	31669-045	• RING, Retainer	1
18	49354-061	• LINK	2
19	43238-061	• PIN, Roll 3/16 x 3/4	1
20	44132-091	VELCRO, 2 x 12 Inch	2
21	31599-041	WASHER	2
22	44931-056	LINK	4
23	4685-051	SCREW, Cap, Hex Hd., 1/4-20 x 1-1/4 Inch	1
24	19686-061	WASHER, Lock	3
25	44927-056	LATCH	1
26	44914-056	ROD, Control	1
27	27642-042	SCREWS, Truss Hd. 8-32 x 3/8 Inch	2
28	44917-056	SPRING, Latch	1
29	36882-056	SCREW, Socket Hd., Flat Cap, 3/8-24 x 1 Inch	4
30	49576-061	SCREW, Set, Cup Pt., 10-32 x 1/4 Inch	4
31	44273-056	SCREW, Socket Hd., Flat Cap, 3/8-24 x 11/16 Inch	4
32	44909-045	RING, Retaining	2
33	34518-061	SCREW, Set, Cup Pt., 8-32 x 1/4 Inch, Stainless Steel	2
34	44901-043	WASHER, Adjust	2
35	44921-031	LEVER, RH	1
36	44929-043	TIE BAR	1
37	44922-031	LEVER, LH	1
38	44928-043	PIN	3
39	13364-091	PIN, Cotter, 1/16 dia. x 1/2 Inch	5
40	44925-091	BEARING, Cam follower	4
41	19692-061	WASHER, Lock, 5/8 Inch, Stainless Steel	4
42	15359-042	NUT, Jam, 5/8 x 18 Inch	4
43	44918-063	PLUNGER ASSEMBLY	2
44	45360-045	SPRING	2
45	44930-043	SPACER	2
46	16363-048	SCREW, Socket Hd., Cup., 3/8-16 x 1 Inch	2
47	59206-056	FRAME ASSEMBLY	1
48	44923-056	LEVER, Release	1
49	17250-042	WASHER	2
50	43306-061	PIN, Roll, 1/8 x 3/4 Inch, Stainless Steel	1
51	18455-045	SPRING	1
52	3039-041	NUT, Hex, No. 10-24	1
53	29742-045	PIN, Driv-Lok	2

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-8-54	44926-041	SCREW, Spec., 10-24 x 1-1/8 Inch	1
55	3952-041	SCREW, Round Hd., 1/4-20 x 1/2 Inch	2
56	44934-091	FOOT EXTENSION (Inc. Items 57 thru 60)	1
57	44936-043	• BAR	2
58	44935-091	• BOARD	1
59	52452-041	• SCREW	13
60	47425-043	• BAR	1

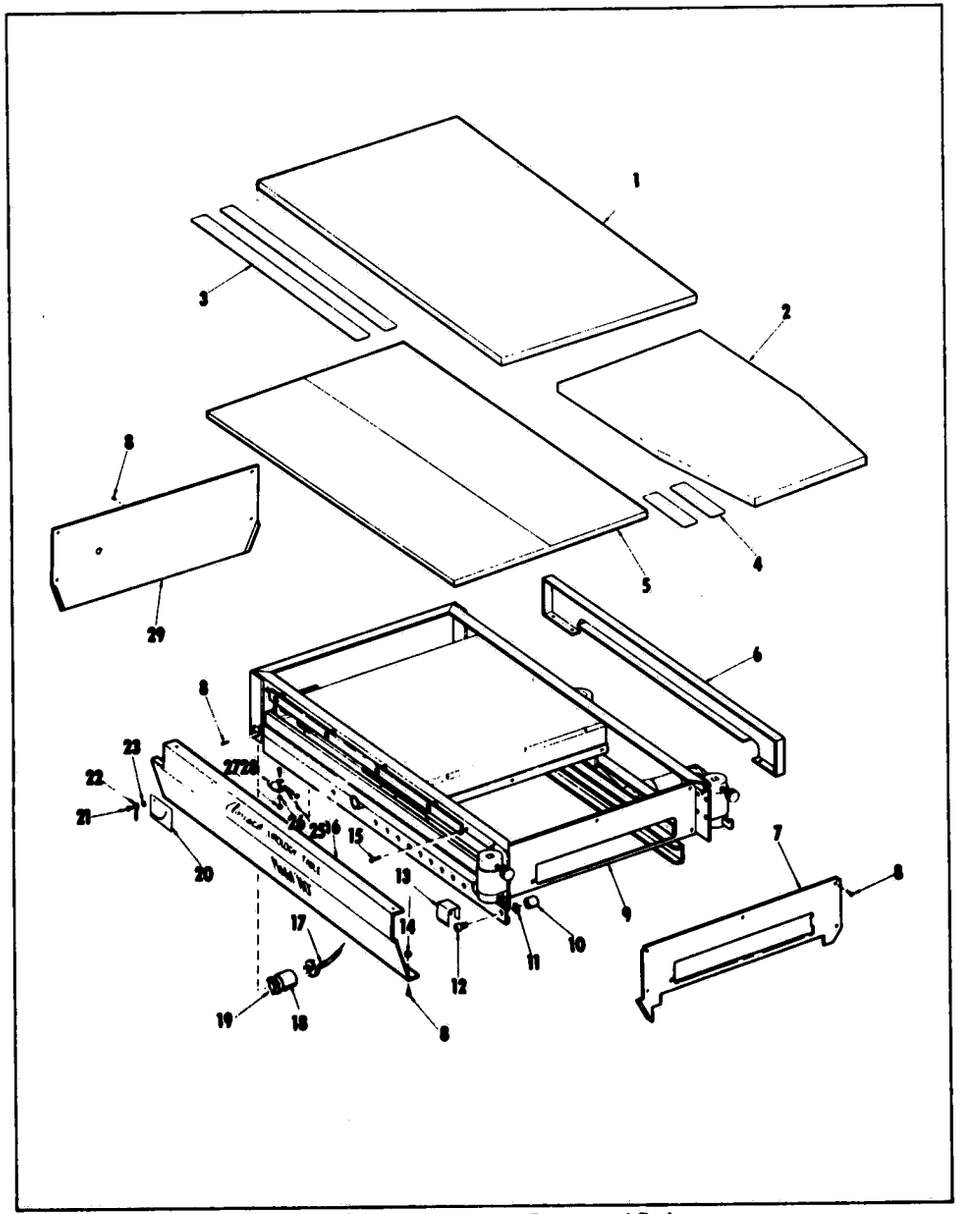


Figure 8-9. Superstructure Covers and Pads.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-9-		SUPERSTRUCTURE COVERS AND PADS	
1	45977-091	PAD, Back Section	1
2	75435-091	PAD, Foot Section	1
3	46147-091	HOOK, Fastener, Used on 45372 (Back Section)	2
4	46146-091	HOOK, Fastener, Used on 59723 (Foot Section, Fig. 8-2)	2
5	92640-002	TOP, Table 1/4''	1
*	45372-091	TOP, Table 1/2''	1
6	55725-061	COVER PLATE, Back	1
7	92642-001	COVER, End Plate, Right Hand Table	1
	92641-001	COVER, End Plate, Left Hand Table	1
8	42618-045	SCREW, Cap Button Hd., Socket, No. 6-32 x 1/4 inch	20
9	134255-001	SUPERSTRUCTURE ASSEMBLY, Right Hand Table	1
	134256-001	SUPERSTRUCTURE ASSEMBLY, Left Hand Table	1
10	44930-043	SPACER	2
11	17250-042	WASHER	2
12	12439-045	SCREW, Cap, Socket Hd., 3/8-16 x 3/4 inch	3
13	N.L.A.	SUPPORT, Panel (Left Hand Table Only)	1
14	8644-061	NUT	1
15	46123-043	SCREW, Socket, Flat Hd., 10-32 x 1/2 inch	2
16	54549-010	COVER, Front, Right Hand Table	1
	54861-010	COVER, Front, Left Hand Table	1
17	46150-091	CORD	1
18	45627-091	RECEPTACLE, Female	1
19	45626-091	SHELL, Flush Mount (AMPHENOL)	1
20	45252-031	INDICATOR, Trendelenburg, Right Hand Table	1
	47428-031	INDICATOR, Trendelenburg, Left Hand Table	1
21	45253-061	PIN, Pivot	1
22	15644-063	POINTER, Short	1
23	5469-041	WASHER	1
24	49541-042	SCREW	1
25	36748-091	SPRING, Tension	1
26	17796-091	WASHER	1
27		Not Used	
28	118155-091	CLAMP, 1/2 inch Plastic	1
29	54563-061	COVER, Head End, Right Hand Table	1
	54562-061	COVER, Head End, Left Hand Table	1

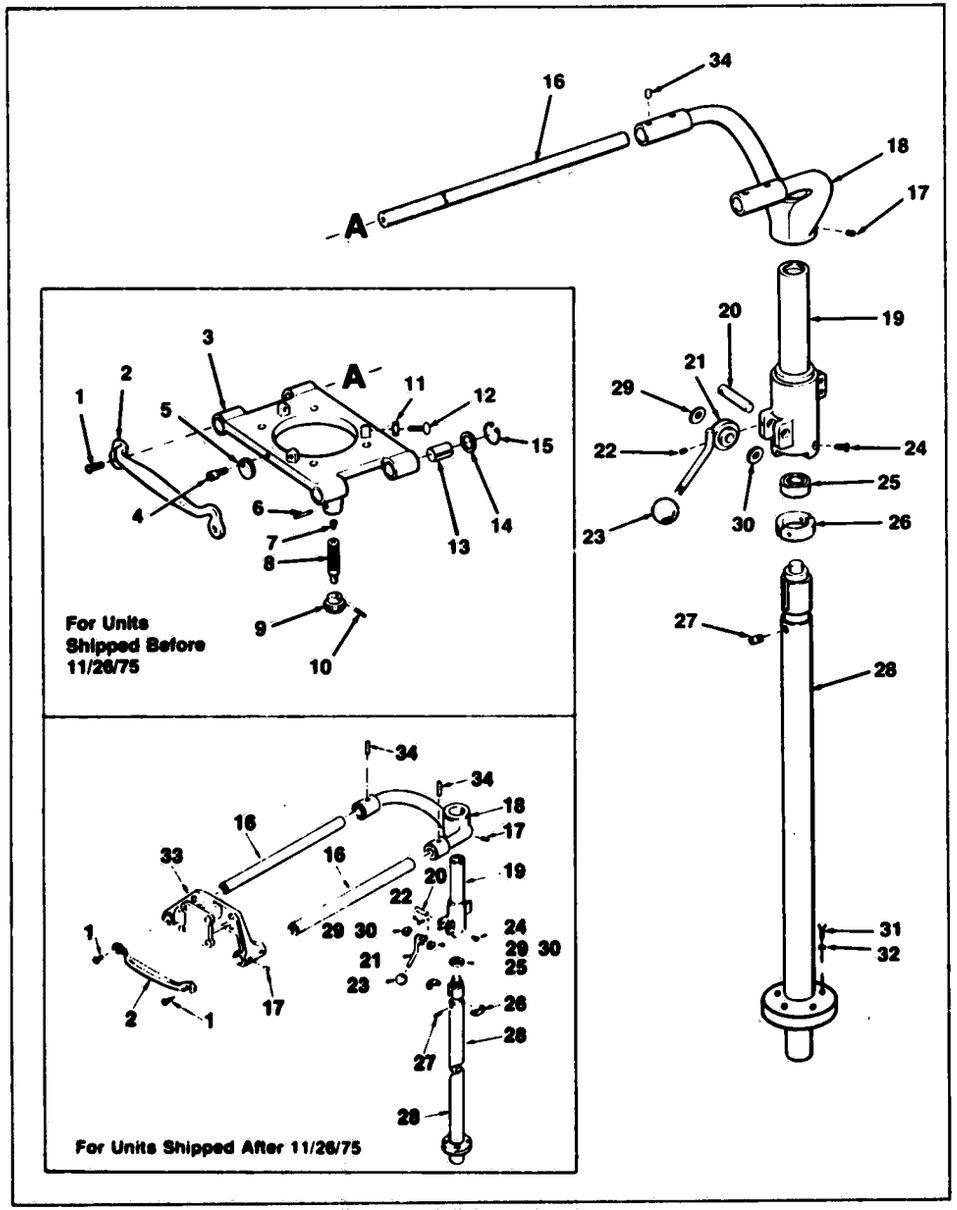


Figure 8-10. X-Ray Tube Mount.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-10-	N.L.A.	X-RAY TUBE MOUNT (Inc. items 1 thru 30)	1
1 ‡	42631-045	SCREW, Button socket 1/4-20 x 1/2 Inch	2
2 ‡	31958-056	HANDLE	1
3	N.L.A.	CARRIAGE	1
4	20685-061	SCREW, Cap. Soc. HD	1
5	50730-051	LOCK	1
6	N.L.A.	PIN, Groove	1
7	38506-091	BUMPER	1
8	45920-061	STUD	1
9	24440-031	KNOB	1
10	23449-061	PIN, Roll	1
11	19172-061	LOCK, Nut	3
12	15411-056	SCREW, Thumb	3
13	50727-091	BUSHING	4
14	50728-061	RETAINER	4
15	N.L.A.	SNAP RING	4
16 ‡	45942-056	ROD, X-Ray Tube	2
17 ‡	31799-091	SETSCREW, Cup Ot., 5/16-18 x 5/16 Inch	8
18 ‡	59222-010	SUPPORT	1
19 ‡	53404-056	SLEEVE ASSEMBLY	1
20 ‡	44971-061	PIN	1
21 ‡	45946-056	HANDLE ASSEMBLY	1
22 ‡	36883-061	SETSCREW, Cup Pt., 10-32 x 3/8 Inch	1
23 ‡	16418-091	KNOB	1
24 ‡	24545-061	SCREW, Flat Hd., 10-32 x 3/8 Inch	4
25 ‡	47970-091	BEARING	1
26 ‡	45363-091	BEARING, Split	1
27 ‡	45976-061	STOP	1
28 ‡	55783-056	TUBE ASSEMBLY (Adjustable)	1
29 ‡	34511-091	WASHER, 11/32 Inch ID x 1-1/8 OD x 1-32 Inch (qty. as required)	
30 ‡	34510-091	WASHER, 17/32 ID x 1 Inch OD x 1/64 Inch (qty. as required)	
31 ‡	78124-045	SCREW†	4
32 ‡	78123-043	WASHER†	4
33 ‡	142982-001	BRACKET, Mounting	1
34 ‡	38968-061	PIN, Roll	2

†**NOTE 1:** Items 31 and 32 are used to fasten item 28 to support on Bucky base assembly.

‡**NOTE 2:** 134260-001 includes items 1, 2 and 16 thru 34.

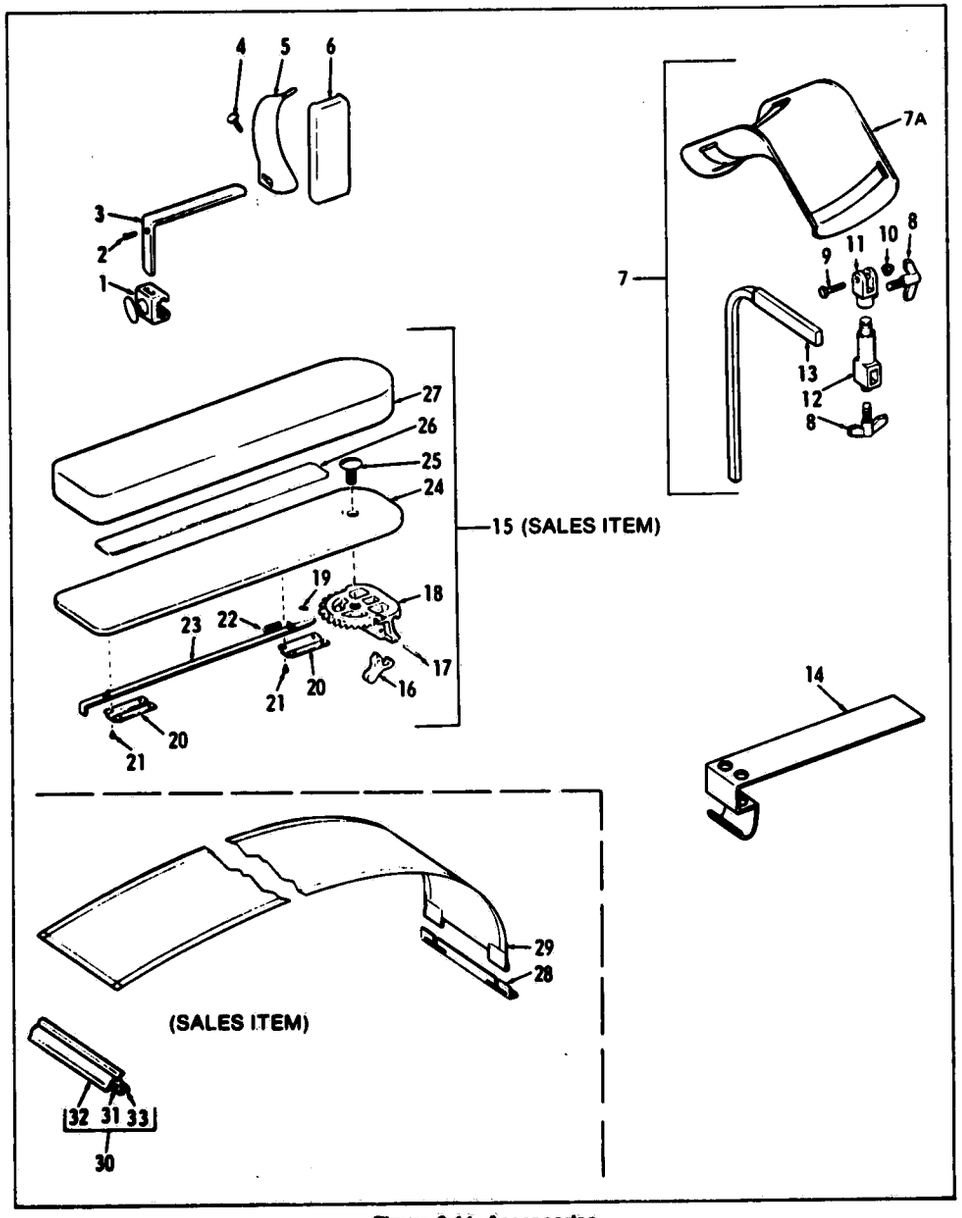


Figure 8-11. Accessories.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-11-		ACCESSORIES	
		SHOULDER REST ASSEMBLY (Inc. Items 1 thru 6)	2
1	46145-091	KNOB AND SOCKET	2
2	15361-042	SCREW, Round Head	2
3	79773-001	SHOULDER REST ANGLE	2
4	15411-056	THUMB SCREW	2
5	15916-044	REST, Shoulder	2
6	18004-091	PAD, Shoulder	2
7	55590-091	KNEE CRUTCH ASSEMBLY, Right Hand (Inc. Items 7A thru 13)	1
	55591-091	KNEE CRUTCH ASSEMBLY, Left Hand (Inc. Items 7A thru 13)	1
7A	31909-010	• CRUTCH, Right Hand	1
	31910-010	• CRUTCH, Left Hand	1
	22108-091	• STRAP	4
8	45711-056	• WING SCREW	4
9	22709-041	• SCREW, Hexagon Hd	2
10	15378-051	• NUT, Acorn	2
11	45709-034	• LUG, Knee crutch	2
12	45708-034	• LUG, Sliding	2
13	74236-056	• BRACKET ASSEMBLY, Right Hand Knee Crutch	1
	74237-056	• BRACKET ASSEMBLY, Left Hand Knee Crutch	1
14	97653-031	HOLDER, Test Tube	1
15	56130-001	ARMBOARD, Intravenous (Inc. Items 16 thru 26) (Sales Item)	1
16	92646-001	• TRIGGER	1
17	26134-061	• PIN, Driv-Lock, 1/4 dia. x 1-1/4 inch, stainless steel	1
18	136011-001	• BRACKET	1
19	25453-091	• SCREW, Set, Socket Hd., 1/4-20 x 7/16 inch	1
20	26546-061	• COVER	2
21	9374-041	• SCREW, Round Hd., 10-32 x 1/4 inch	8
22	22118-061	• SPRING, Compression	1
23	26544-045	• TRIP LEVER ASSEMBLY	1
24	26547-091	• ARM BOARD	1
25	26543-056	• SCREW, Special, Flat Hd., 5/8-11 x 1-5/16 Inch	1
26	43413-091	• HOOK FASTENER, 2 inches wide x 18 inch	1
27	56231-001	• ARMBOARD PAD, 1 inch thick	1
	56232-001	ARMBOARD PAD, 2 inch thick (Not Shown — **NOT PART OF ITEM 15**)	1
	56233-001	ARMBOARD PAD, 3 inch thick (Not Shown — **NOT PART OF ITEM 15**)	1
		RESTRAINT STRAP ASSEMBLY (Inc. Items 28 thru 33) (Sales Item)	1
28	53371-061	• CLAMP	1
29	53373-091	• STRAP, Restraint	1
30	46130-091	• RELEASE LEVER ASSEMBLY (Inc. Items 31 thru 33)	1
31	45981-061	• PIN, 1/4 dia. x 1-1/6 inch	2
32	53431-031	• LEVER, Release	1
33	53372-061	• BRACKET	1

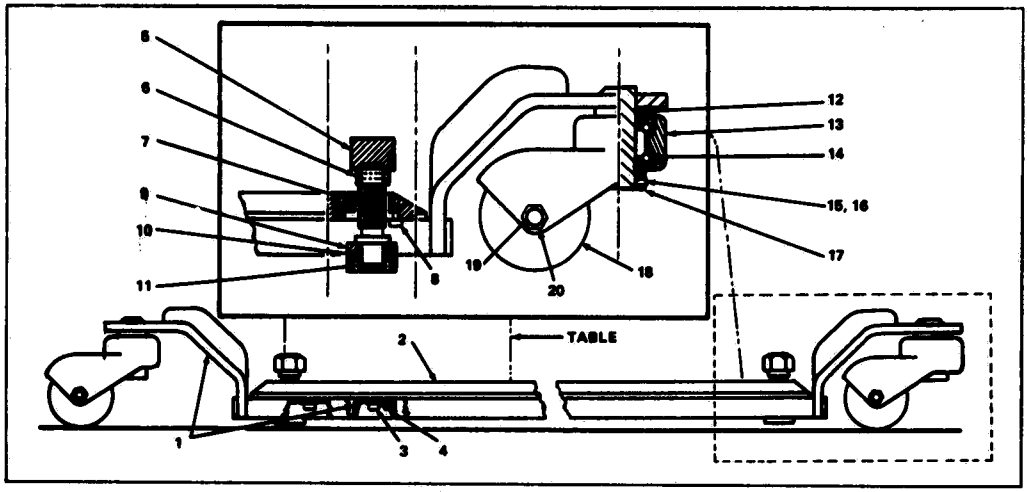


Figure 8-12. Caster Assembly.

FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
8-12-	99677-091	CASTER ASSEMBLY	Ref.
1	135005-010	WELDMENT	1
2	55873-057	PAD	1
3	12284-041	SCREW, Socket Hd., 3/8 — 16 x 5/8 Inch	14
4	19687-061	LOCKWASHER	14
5	79441-001	BOSS, Cont.	4
6	41510-061	PIN, Groove, 5/32 dia. x 7/8 inch	4
7	79392-061	NUT	4
8	41012-061	SCREW, Socket Hd., 10-32 x 1/2 inch	4
9	79393-091	CONTACT, Floor	4
10	79394-001	PIN	4
11	42639-091	RING, Snap	4
12	22819-091	COLLAR, Thrust	4
13	135006-052	FORK	4
14	22803-091	BEARING	8
15	22436-091	PLUG, Nylon	4
16	4772-045	SCREW, Set, 1/4-20 x 1/4 inch	4
17	22818-091	COLLAR, Lock	4
18	13601-091	WHEEL	8
19	79395-061	AXLE	4
20	16921-041	NUT, Stop, 3/8 — 24	4
	79399-043	PEDAL, Emergency Pump (Not Shown)	1

AMSCO SERVICE

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